5-2019

EXAMINING THE IMPACT OF USING POINT OF VIEW VIDEO MODELING ON IMPROVING SELF-CARE SKILLS OF A STUDENT WITH AUTISM

May Ali Elmetwally Ghoneim

United Arab Emirates University

College of Education

Department of Special Education

EXAMINING THE IMPACT OF USING POINT OF VIEW VIDEO MODELING ON IMPROVING SELF-CARE SKILLS OF A STUDENT WITH AUTISM

May Ali Elmetwally Ghoneim

This thesis is submitted in partial fulfilment of the requirements for the degree of Master of Education (Special Education)

Under the Supervision of Dr. Hala Elhoweris

May 2019

Declaration of Original Work

I, May Ali Elmetwally Ghoneim, the undersigned, a graduate student at the United Arab Emirates University (UAEU), and the author of this thesis entitled "*Examining the Impact of Using Point of View Video Modeling on Improving Self-Care Skills of a Student with Autism*", hereby, solemnly declare that this thesis is my own original research work that has been done and prepared by me under the supervision of Dr. Hala Elhoweris, in the College of Education at UAEU. This work has not previously been presented or published, or formed the basis for the award of any academic degree, diploma or a similar title at this or any other university. Any materials borrowed from other sources (whether published or unpublished) and relied upon or included in my thesis have been properly cited and acknowledged in accordance with appropriate academic conventions. I further declare that there is no potential conflict of interest with respect to the research, data collection, authorship, presentation and/or publication of this thesis.

Student's Signature: _____ Date: 30-5-2019

Approval of the Master Thesis

This Master Thesis is approved by the following Examining Committee Members:

1) Advisor (Committee Chair): Hala Elhoweris
   Title: Associate Professor
   Department of Special Education
   College of Education
   Signature Hala Elhoweris Date 2-5-2019

2) Member: Mohammed Al Zyoudi
   Title: Professor
   Department of Special Education
   College of Education
   Signature _____ Date 2-5-2019

3) Member (External Examiner): Emad Mohammad Hamdan Alghazo
   Title: Associate Professor
   Department of Humanities and Social Sciences
   Institution: Al Ain University of Science and Technology, UAE
   Signature _____ Date 2-5/2019

This Master Thesis is accepted by:

Acting Dean of the College of Education: Professor Ahmed Murad

Signature _____ Date 30/5/19

Acting Dean of the College of Graduate Studies: Professor Ali Al-Marzouqi

Signature _____ Date 12/6/2019

Copy 7 of 7

Advisory Committee

1) Advisor (Committee Chair): Hala Elhoweris

Title: Associate professor

Department of Special Education

College of Education

2) Member: Mohammed Al Zyoudi

Title: Professor

Department of Special Education

College of Education

Abstract

The purpose of this study was to examine the effectiveness of using point of view video modeling intervention strategy on improving self-care skills of a student with autism. The target skills were hand washing and toothbrushing skills. A single subject ABA design was used in this study. Data was collected using mixed method approach. The intervention lasted for six weeks. The results of this study indicated that point of view video modeling is an effective instructional tool to improve handwashing and toothbrushing skills for a student with autism. Moreover, the participant was able to generalize hand washing and toothbrushing skills to two different settings. Implications of this study include the importance of utilizing point of view video modeling in the daily classroom practice to teach students with autism self-care skills.

Keywords: Autism, video modeling, self-care skills, UAE.

Title and Abstract (in Arabic)

أثر برنامج النمذجة بالفيديو علي تحسين مهارات العناية بالذات لدي طالب مصاب بالتوحد

الملخص

تهدف هذه الدراسة إلى اختبار فعالية النمذجة بالفيديو في تحسين مهارات العناية بالذات لدى طالب توحد. تضمنت المهارات المستهدفة في هذه الدراسة مهارتي غسيل اليدين وغسيل الأسنان. المنهج المستخدم في هذه الدراسة هو منهج البحث التجريبي ذي النزعة الفردية، و قد تم استخدام المنهج المختلط في هذه الدراسة. وكانت نتيجة هذه الدراسة أن النمذجة بالفيديو هي وسيلة فعالة لتعليم مهارات العناية بالذات لأطفال التوحد. علاوة على ذلك فقد استطاع الطالب تعميم المهارتين في مكانين آخرين. تتضمن توصيات هذه الدراسة أن يتم استخدام النمذجة بالفيديو في تعليم مهارات العناية بالذات للطلاب المصابين بالتوحد.

مفاهيم البحث الرئيسية: التوحد، النمذجة بالفيديو، مهارات العناية بالذات، دولة الإمارات العربية المتحدة.

Acknowledgements

I would like to thank my advisor Dr. Hala Elhoweris for her great effort and guidance. I would like also to thank Prof. Mohammed Al Zyoudi for his support. I would like to thank my husband who believed in me more than I did, and I appreciate his great support all the time. Special thanks go to the kind people who helped me along the way; Mr. Emad Kotb and Mr. Alazab Alshazly.

Dedication

I dedicate this thesis to my parents, specially my dear mother who supported me all the time. To my husband, without whom I never would reach my goal. To my daughter and to my beloved family.

Table of Contents

Title i
Declaration of Original Work ii
Copyright iii
Advisory Committee iv
Approval of the Master Thesis v
Abstract vii
Title and Abstract (in Arabic) viii
Acknowledgements ix
Dedication x
Table of Contents xi
List of Figures xiii
Chapter 1: Introduction 1
1.1 Purpose of the Study 7
1.2 Statement of the Problem 8
1.3 Research Questions 9
1.4 Significance of the Study 10
1.5 Limitations and Delimitations 12
Chapter 2: Literature Review 14
2.1 Overview 14
2.2 Theoretical Framework 14
2.3 Autism: Definition and Major Characteristics 16
2.4 Improving Self-care Skills of Students with Autism 19
2.5 Effectiveness of Video Modeling on Improving Self-care Skills 22
2.6 Summary 27
Chapter 3: Methodology 28
3.1 Overview 28
3.2 Research Design 28
3.3. Participants 29
3.4 Setting and Materials 31
3.5 Instrumentation 32
3.5.1 Checklists 32
3.5.2 Videos 33
3.6 Reliability and Validity 34
3.7 Procedures 36
3.8 Response Definitions and Data Collection 36

3.9 Baseline Phase 37
3.10 Intervention Phase 37
3.11 Maintenance Phase 38
3.12 Generalization Phase 38
3.13 Data Analysis 39

Chapter 4: Results 40
4.1 Overview 40
4.2 Additional Findings 45
4.3 Findings from the Structured Interview with the Teacher 46

Chapter 5: Discussion 50
5.1 Overview 50
5.2 Discussion 50
5.3 Recommendations for Future Research 55
5.4 Implications for Teachers 56

References 57

Appendix 64
Appendix 1: Hand washing checklist 1 64
Appendix 2: Hand washing checklist 2 65
Appendix 3: Toothbrushing checklist 1 66
Appendix 4: Toothbrushing Checklist 2 67
Appendix 5: Center Manager Consent Form 68
Appendix 6: Parent Consent Form 69

List of Figures

Figure 1: Student's performance on hand washing skill 41
Figure 2: Intervention phase of hand washing skill 43
Figure 3: Student’s performance on toothbrushing skill 44
Figure 4: Intervention phase of toothbrushing skill 45

Chapter 1: Introduction

The number of children diagnosed with autism is increasing around the globe. Recently, the reported rates of autism across the world have approached 1% of the population (American Psychiatric Association, 2013). The prevalence of autism in the UAE is estimated as 1 in 146 births (Hessian, Abbady & Alaam, 2017). The number of students with autism in Care & Rehabilitation Centers for people of determination across the UAE was 1531 students from both genders based on the latest statistics of the Ministry of Community Development during 2017/ 2018 academic year (Ministry of Community Development, 2019). Indeed, students with autism represent 30% of the total number of students registered in people of determination Care & Rehabilitation Centers across the UAE.

Autism is first identified by Dr. Leo Kanner (1943), an American psychiatrist, who noticed that eleven children were exhibiting relatively common characteristics including lack of verbal communication, oversensitivity to external or internal stimuli and in ability to socialize. In 1944, Hans Asperger published a paper about a group of children demonstrated similar behaviors of Kanner's patients in Germany, (as cited in Hardy, 2016).

According to the DSM –V, autism is defined as a neurodevelopmental disorder that "characterized by persistent deficits in social communication and social interaction across multiple contexts, including deficits in social reciprocity, nonverbal communicative behaviors used for social interaction, and skills in developing, maintaining, and understanding relationships. In addition to the social communication deficits, the diagnosis of autism spectrum disorder requires the presence of restricted, repetitive patterns of behavior, interests, or activities" (American Psychiatric

Association, 2013). The autism spectrum disorder manifests in the second year of life but some symptoms may appear earlier. It occurs mostly in males more than females with a ratio 4 to 1.

According to DSM-5, all categories of autism that had been identified by DSM-4 such as Asperger's Syndrome, Pervasive Developmental Delay – Not Otherwise Specified (PDD-NOS), Rett's Syndrome, Childhood Disintegrative Disorder, and Autistic Disorder should be referred to as autism spectrum disorder (American Psychiatric Association, 2013).

In fact, children with autism show loss of skills beyond social communication such as self-care skills, motor skills and play skills (American Psychiatric Association, 2013). Moreover, children with autism have deficits in adaptive behavior skills as it is typically below child's IQ ability. "Autism spectrum disorder generally has lifelong effects on the child's ability to socialize, to care for him/her self and to participate meaningfully in the community" (Zachor, Merrick & ebrary, 2013, p. 7). Students with autism have difficulties in adaptive behavior and self-care skills such as hygiene, washing hands, maintaining healthy, dressing, caring of clothes, self-entertainment and following a schedule (Meister & Salls, 2015; Volkmar, Paul & Rogers, 2014). Indeed, children with autism have poor functional independence in self-care skills due to the difficulties in fine motor skills and atypical sensory responses (Jasmin, Couture, Mckinley, Reid, Fombonne & Gisel, 2009).

Hand washing skill is a significant skill that everybody should learn (International Self Care Foundation, 2019). Hand hygiene is something that directly can affect person's health. Although hand-washing skill is a critical skill, several children with autism have difficulty in hand washing skill.

In addition, students with autism have difficulty to maintain oral hygiene and they are at risk of developing dental decay and this is due to many factors such as “poor hygiene, detrimental oral behaviors, medication-induced xerostomia, concurrent medical diagnoses, low cognitive abilities, poor dietary habits, gastric reflux, a preference for soft or sweet foods, use of sweets for behavior modification, and a need for help with toothbrushing and other general fine-motor tasks”(Popple, Wall, Flink, Powell, Discepolo, Keck & Shic, 2016, p. 2791). Another concern is that, it is difficult for students with autism to receive treatment at the dental clinic as they usually get stressed of the activities that are not included in their daily routine. Also, children with autism are very sensitive to sensory stimuli such as strong sounds, bright light, sensations, and scents (Popple et al., 2016). Therefore, they need to be taught the daily living skills as part of their daily routine.

Furthermore, children with autism depend on their parents or caregivers in such self-care tasks. This dependence affects parents’ lives, as it is so difficult to care for their children all the time. Lacking for such basic self-care skills make students with autism dependent persons who need care all the time and everywhere; at home, at school or even outside home.

In 2009, World Health Organization (WHO) defined self-care as “the ability of individuals, families and communities to promote health, prevent disease, and maintain health and to cope with illness and disability with or without the support of a health-care provider”. Self-care skills that individuals with autism have difficulties with are hygiene, grooming, managing illness, promoting health, dressing, caring of clothes, self-entertainment and following a schedule (Volkmar, et al., 2014). According to the International Self Care Foundation (ISF) (2019), “Hand washing is probably the most important hygiene practice that individuals can engage in. It is one

of the simplest, yet most effective, health behaviors". In addition, brushing teeth affects the oral health, which is a main aspect of general health. Oral diseases affect many actions such as eating, speaking, chewing, swallowing, kissing, touching, smiling and even crying out in pain; therefore, the oral health has an effect on the quality of life (Petersen, 2003). Moreover, there is a correlation between oral health and general health as many oral diseases lead to other general health conditions such as diabetes and noncommunicable chronic disease (Alzheimer's, diabetes, cancer, asthma, obesity, heart disease, stroke) (Petersen, 2003). Therefore, it is paramount to teach students with autism self-care skills like hand washing and tooth brushing.

There are several interventions that were conducted to improve self-care skills for students with autism such as self-operated auditory prompting systems (Mays & Heflin, 2011), pictorial activity schedules and peer tutoring (Carothers & Taylor, 2004). Also, Applied Behavior Analysis (ABA) has been used effectively to teach adaptive living skills to students with autism (Matson, Hattier & Belva, 2011). However, according to a meta-analysis study carried out by Spreckley (2009), there is no adequate evidence that ABA intervention is more effective than standard care (e.g. TEACCH, parent training, electric treatment) in teaching adaptive behavior to students with autism. However, the above mentioned strategies have some limitations as they lack the elements of grabbing the student's attention and motivation and also ignore the fact that students with autism are visual learners. Therefore, recently, several visual strategies have been developed to enhance self-care skills of children with autism including pictures schedules, picture exchange communication system and scripts. These successful strategies have been implemented with paper or on television (Miltenberger, 2013).

Technology is widely used nowadays in education. It allows students to master skills in an interesting way. An assistive technology service is defined as any service that directly assists individuals with disabilities in the selection, purchase, or use of an assistive technology device (Bursztyn, 2007).

Students with autism mostly prefer technology, therefore, educators should use technology in teaching students with autism due to its accessibility and manageability (Bosseler & Massaro, 2003). Assistive technology includes the use of the internet, augmentative communication devices, robotics, iPod, iPad, computer-aided instructions, video modeling, virtual reality, voice output communication devices. Technology help individuals with autism (ASD) by facilitating new means of communication, socializing and learning. Assistive technology has also been successful in the ASD community because "computers are free from social demands and can provide consistent and predictable responses, which can be repeated indefinitely without fatigue" (Silver & Oakes, 2001, p. 302). Screen-based technology is a powerful instructional tool as it engages the student and maintains the student's attention (Woltersdorf, 1992).

According to research (e.g., Wilson, 2013), video modeling is an effective strategy that has been used for improving many skills of students with autism spectrum disorders (e.g. social skills, play skills, academic skills. etc.). Within video models, a person is presented while demonstrating the target behavior and every video model is specified to the student's needs and preferences (Burns, 2012). Video modeling includes three types, including traditional video modeling, Video self- Modeling and point of view video modeling. In traditional video modeling, a person (e.g. peer, adult) performs the desired behavior (Wilson, 2013). On the other hand, in video self-modeling, the student himself is the model who performs the target skill by editing the

video to eliminate the undesired behaviors or errors in order that student watches only himself performing the target behavior at the mastery level (Gelbar, Anderson & McCarthy, 2012). And the third type of video modeling is point of view video modeling in which the video presenting a situation as if the student himself is doing the action without showing the face of the model (Wilson, 2013). According to Ogle (2012) point of view video modeling led to faster acquisition of targeted skills when compared with traditional video modeling among students with autism.

Several researchers (e.g. Meister & Salls, 2015; Sancho, Sidener, Reeve & Sidener, 2010; Tetreault, & Lerman, 2010) have reported that using point of view video modeling is an effective intervention. Also, it can be individualized for each student with autism according to his/her developmental level to teach each student the targeted skills or any desired behavior (Burns, 2012). Additionally, according to Cottini (2016), video modeling strategy has many advantages, which include: a) the processing of visual information would be better for students with autism, b) it excludes eye contact with people which is stressful for students with autism, c) it includes the use of media that might be attractive for individuals with autism, and finally d) the procedures of the video modeling interventions minimize the distraction by eliminating the visual and auditory intervening stimuli (as cited in Piccin, 2018). Some other advantages of video modeling were also mentioned earlier by Fry, Fehrenbach, and Frautschi (1979) (as cited in Charlop-Christy, Le & Freeman, 2000). In comparison to vivo modeling (live modeling), Fry,et al.(1979) found that video modeling has many advantages which include: a) different naturalistic settings could be produced within the videotapes that would be difficult to be available in the classroom setting, b) the model does not have to be present every session unlike the live modeling and this allow for repeating the observations, c) the teacher has more

control on the modeling procedures than in live modeling, and d) videotapes can be reused with other students and the benefit is widely spread. Moreover, according to Charlop-Christy, Le & Freeman (2000, p. 549) "Within vivo modeling, the child may focus on a miscellaneous cue, such as the model's clothes, instead of attending to relevant cues such as the actual target behavior. Video modeling, on the other hand, attempts to compensate for the child's stimulus overs electivity by having the camera zoom in closely on the relevant cues to learn the behaviors." In addition, video modeling consumes less time and cost in comparison to in vivo modeling (Charlop-Christy et al., 2000).

Nikopoulos and Keenan (2006) reported that there are some advantages that show how video modeling is superior to the other visual strategies that were mentioned above. For example, in video modeling a) no specific training or previous instruction required before implementing a video modeling intervention b) prerequisite skills that are required for video modeling are less than those required for activity schedule and c) video modeling does not require contingent reinforcement upon correct responses, rather than an occasionally praise or some small reward are enough to keep students on task.

1.1 Purpose of the Study

Overall, video modeling has been reported in the literature as an effective strategy to be used with students with autism in teaching different skills including self-care skills. Therefore, the current study will examine the impact of using point of view video modeling to improve two self-care skills of a student with autism which are hand washing and toothbrushing skills.

1.2 Statement of the Problem

Students with autism always have a difficulty in caring for themselves (Zachor et al., 2013). More specifically, they have difficulties with adaptive behavior and self-care skills such as hygiene, hand washing, grooming, managing illness, promoting health, dressing, caring of clothes, self-entertainment and following a schedule (Volkmar et al., 2014). Indeed, students with autism have difficulty to maintain oral hygiene and they are at risk of developing dental decay and this is due to many factors such as poor hygiene, need assistance for toothbrushing and eating sweets as a reinforcement through behavior modifications (Popple et al., 2016).

Furthermore, children with autism depend on their parents or caregivers in such self-care tasks. This dependence affects parents' lives, as it is so difficult to care for their children all the time. Lacking for such basic self-care skills make students with autism dependent persons who need care all the time and everywhere (e.g., at home, school or even outside home). Therefore, it is critical to enhance the functional independence of the students with autism (Norman et al., 2001). Shrestha, Anderson and Moore (2013) indicated that effective interventions, which focus on self-care skills, can improve the quality of life for parents and children as well. Importantly independent self-help skills promote high level of hygiene in school settings that decrease medical costs and it is correlated to the reduction of school days lost because of illness. Also, it can increase parents' productivity when they don't have to miss their work or activities to take care of their sick child (Harkavy, 2009).

Results of several previous studies that have been conducted throughout the years utilizing video modeling technique to improve self-care skills of students with autism have reported that video modeling is an effective strategy to enhance self-care

skills of students with autism (e.g., Burns, 2012; Campbell et. al, 2015; Charlop-Christy et al., 2000; Lee, Anderson & Moore, 2014; Meister & Salls, 2015; Norman et al, 2001; Popple et. al, 2016; Rosenberg, Schwartz & Davis, 2010 & Shrestha; Anderson & Moore, 2013). In the Arab world, few studies utilized video modeling to enhance different skills among students with autism (e.g, Bayomi, 2009; Omar, 2012; Qwasema, 2014). In the UAE two studies were found that examined the impact of using video modeling on improving students with autism' social (Alzyoudi, Sartawi &Almuhiri, 2015) and dressing skills (Olsen, Bailey & Gould (2018). Findings of these studies indicated that video modeling was an effective strategy to teach social skills and culture specific dressing skills for students with autism.

Although previous studies confirmed that video modeling is an effective strategy to be used with student with autism in teaching different self-care skills (e.g. hand washing, cleaning sunglasses, zipping a jacket, putting on a wrist watch, table setting and pouring, preparing appetizers and snacks, drying hands and folding sweater) and it has been well documented that students with autism have difficulties in basic skills that are vital to their health like hand washing and toothbrushing skills, to date, in the UAE no study has been found that examined the impact of video modeling technique on students with autism' self-care skills including hand washing and toothbrushing. Therefore, this study aims to examine the impact of using Point of View Video modeling technique on improving hand washing and brushing teeth skills of a student with autism.

1.3 Research Questions

More specifically, this study research questions are as follows:

1. What is the impact of using Point of View Video modeling on improving hand washing skill of a student with autism?
2. What is the impact of using Point of View Video modeling on improving toothbrushing skill of a student with autism?
3. To what extent can hand washing and toothbrushing skills, gained through the implementation of Point of View Video modeling, be generalized to different settings?

1.4 Significance of the Study

This study focuses on examining the impact of using point of view video modeling strategy on improving hand washing and toothbrushing skills which are very vital and basic skills that are related to one's health. Unlike typical students who learn self-care skills on their own, students with autism need to be taught such skills by instruction and rehearsal to be more independent individuals (Nikopoulos, & Keenan, 2006; Volkmar et al., 2014). By teaching self-care skills for children with autism, it will decrease the load off their parents or caregivers as well and it will help those children to be more independent and consequently it will increase their self-confidence (Simmons, 2006).

The significance of this study also resides in the importance of the instructional technique that was used, which video is modeling. Several previous researchers indicated that the preferable learning style of most children with autism is visual learning (Charlop-Christy et al., 2000; McCoy & Hermansen, 2007; Pilebro and Bäckman, 2005). Video modeling has been found to be an effective instructional tool for students with autism. This contributes to the fact that video modeling increases students' attention by eliminating any elements of distraction or stimuli that could exist

in the real situation that is, according to Bandura, an important factor of intervention success (Volkmar et. al, 2014). Moreover, it has been found that persons with autism are more likely to keep attention and remember visual materials than verbal materials. (Nikopoulos & Keenan, 2006). Another important element is that video modeling increases students' motivation by combined it with reinforcement which was a successful combination in several studies (Bayomi, 2009; Kleeberger & Mirenda, 2010; Lee et al., 2014; Sancho et al., 2010; Tetreault & Lerman, 2010). Moreover, video modeling can be standardized and generalized across different settings and can be reused with different students (Nikopoulos & Keenan, 2006; Volkmar, et. al, 2014). Additionally, it can be individualized for each student with autism according to his developmental level to teach him targeted skills or any desired behavior (Burns, 2012).

Few studies were conducted to investigate using video modeling with autism in the Arab world. In Egypt, for example, Bayomi (2009) examined the effectiveness of video modeling task analysis, and reinforcement on students with autism' s self-care skills including eating, drinking and self-security. Findings of this study indicated that the program was effective in improving targeted skills of the participants. Also, findings of other Arab studies in Egypt and Saudi Arabia indicated that video modeling was effective in improving play and social skills of students with autism (Omar, 2012; Qwasema, 2014).

In the UAE only two studies have been found that utilized video modeling with students with autism. The purpose of the first study was to examine the impact of using video modeling on improving students with autism' social skills (Alzyoudi, Sartawi & Almuhiri, 2015). The targeted skills were social initiation skills, conversational skills, appropriate non-verbal communication and answering or asking informational questions. The findings of this study found that video modeling was an

effective instructional tool for teaching social skills for all five participants. The other study was carried out by Olsen, Bailey and Gould (2018). This study used video modeling to teach culture specific dressing skills to students with autism. The target skill was dressing ghutra and agal, a traditional Emirati head covering for men. Two participants acquired the skill and generalized it to different settings and persons while the third participant failed to complete only one step of the skill.

The current study will fill the gap in research by adding to literature as it is the first study to use video modeling to teach hand washing and toothbrushing skills for a student with autism in the UAE.

1.5 Limitations and Delimitations

This study is limited to one participant with a diagnosis of autism spectrum disorder and primarily conducted in only three days per week in a special education classroom setting. The use of a single subject design makes it difficult to generalizing the results of this study to other subjects, because of the small number of subjects that are investigated. Additionally, this study is only focusing on two self-care skills including hand washing and toothbrushing, which will make generalization difficult to the other self-care skills.

1.6 Definition of Terms

Autism: A form of pervasive developmental disorder characterized by difficulties in social interaction and language acquisition and use, as well as odd or unusual mannerisms, behaviors, and habits (Volkmar & Wiesner, 2009).

Self-care skills: The skills, which an individual must acquire if s/he is to take care of him/herself in a natural community setting (Stuart-Hamilton, 2007).

Video Modeling**:** “Showing a learner a video of an individual performing a sequence in its entirety and asking the learner to perform the skill depicted” (Williams, 2013, p. 11).

Point of View Video Modeling**:** It is a type of video modeling in which the video presenting a situation as if the student himself is doing the action without showing the face of the model (Wilson, 2013).

Chapter 2: Literature Review

2.1 Overview

The purpose of this chapter is to introduce a review of literature related to the current study. The main areas that will be covered in this chapter include theoretical framework, definition and major characteristics of autism, strategies used to improve self-care skills in the literature and findings of studies that utilized video modeling to enhance self-care skills of students with autism. At the end of this chapter, a summary of the literature will be included.

2.2 Theoretical Framework

Utilizing video modeling for learning is based on social cognitive theory of Albert Bandura's (1969), which suggests that individuals can learn through observation of others displaying behaviors or skills (Ogle, 2012; Ormrod, 2011). This observational learning comprises two processes including modeling and imitating. According to Bandura, there are four conditions that promote successful modeling which include attention, retention, motor reproduction and motivation (Ormrod, 2011). Attention is affected by many factors such as distinctiveness, affective valence, prevalence, complexity, functional value and student's characteristics (e.g. sensory capabilities, stimulation level, and perceptual abilities, past reinforcement). Retention is remembering what has been watched including symbolic coding, intellectual organization, mental images, symbolic and motor rehearsal. Reproduction is the ability to perform what has been watching including physical capabilities, and self-observation of reproduction. Motivation includes motives such as traditional behaviorism, imagined incentives and self-reinforcement (David, 2019). Therefore,

students must pay attention to the model they observe (Volkmar et al., 2014) and they should be able to memorize what the model did. Moreover, they also must be capable of doing the behavior they observed and finally they must have enough motivation to imitate the modeled behavior (Ormrod, 2011). Bandura also suggested that a) the maximum level of observational learning can be attained by organizing and rehearsing the modeled behavior symbolically and then enacting it overtly, b) better retention can be achieved by coding modeled behavior into labels, words or images rather than by simple observation, c) if the modeled behavior results in desirable outcomes, individuals are more likely to imitate the modeled behavior, and d) the similarity between the observer and the model results in good imitation (Richard, 2019)

Although observational learning occurs instinctively in typical children, children with autism have to be trained for it (Nikopoulos & Keenan, 2006). Since students with autism have deficits in all skills required for promoting observational learning such as attention, imitation, discrimination, following a sequence in a task and initiating social interaction (Plavnick & Hume, 2014). For this reason, many techniques have been developed to enhance the observational learning for students with autism such as live modeling, video modeling, group instruction and explicit instruction in observation of others (Plavnick & Hume, 2014).

Video modeling encompasses both modeling and imitating processes as an individual appears on the videotape exhibiting a skill or behavior while another individual watches the video and imitates the targeted behavior or skill (Wilson, 2013; Gül & Vuran, 2010). Moreover, video modeling increases student's attention, which is a main condition of observational learning according to Bandura, by eliminating any distractive elements from the environment and help the student focus on the modeled

behavior (Volkmar et al., 2014). Therefore, in this study, a video modeling technique was used to teach hand washing and toothbrushing skills to a student with autism.

2.3 Autism: Definition and Major Characteristics

According to Zachor, Merrick & ebrary, (2013, p. 7) "Autism spectrum disorders (ASD) are common neurodevelopmental disorders characterized by a triad of impairments in reciprocal social interactions, verbal and non-verbal communication deficits with repetitive and stereotyped behaviors". The DSM-V defines autism spectrum disorder as a neurodevelopmental disorder that "characterized by persistent deficits in social communication and social interaction across multiple contexts, including deficits in social reciprocity, nonverbal communicative behaviors used for social interaction, and skills in developing, maintaining, and understanding relationships. In addition to the social communication deficits, the diagnosis of autism spectrum disorder requires the presence of restricted, repetitive patterns of behavior, interests, or activities." (American Psychiatric Association, 2013). This disorder manifests in the second year of life but some symptoms may appear earlier. It affects males more than females. Autism Spectrum Disorder has specific characteristics. For instance, many students with autism have social impairments including deficits in social interaction, social reciprocity, verbal and nonverbal communication deficits combined with stereotypic and repetitive motor behaviors, insistence on sameness and inflexible adherence to routines (American Psychiatric Association, 2013). Additionally, students with autism have impairment in adaptive functional skills, intellectual impairment, motor deficits, self-injury and disruptive behavior (American Psychiatric Association, 2013).

In fact, according to DSM-V, children with autism lack some of skills beyond social communication such as self-care skills, motor skills and play skills. Indeed, students with autism have difficulties in demonstrating appropriate play skills with their peers. Also, they have challenges in interpreting body language and to understand facial expressions or tone of voice. Students with autism often have difficulties in receptive and expressive language even some of them are nonverbal as 20% to 30% of the population lack or exhibit delay in spoken language. Also, the verbal students with autism may exhibit some difficulties in expressive language such as inappropriate grammatic structure, incorrect word use and abnormal use of intonation, pitch, stress or rhythm. Both verbal and nonverbal students with autism have difficulties in receptive language such as difficulties in following directions, understanding abstract concepts and understanding social language like jokes and sarcasm.

Student with autism often demonstrate repetitive and stereotyped behaviors and activities such as flapping hands, finger flicking or using objects in unusual way like lining up toys and spinning coins. In addition, they have extreme adherence to routines and rules and insist on sameness. Moreover, they are either hypo or hyper sensitive to some sensory inputs such as visual inputs (e.g. fluorescent lights), auditory inputs (e.g. loud noise or music), tactile input (e.g. touching or hugging) and taste or smell sensitiveness. (American Psychiatric Association, 2013).

Furthermore, students with autism have common learning characteristics such as they better process visual information so they may benefit from pictures, modeling, hands-on activities, and tangible examples. They also have difficulties in generalizing learned skill to other settings (Pratt, Hopf, & Larriba-Quest, 2017). Some students with autism are high achieving in all academic areas and some of them are better in some

academic areas than others for example some students may have good calculation skills and poor applied math problem skills.

In addition, students with autism have executive function impairments such as difficulties in working memory, reasoning, sequencing, advanced cognitive skills, attention, planning and flexible thinking (American Psychiatric Association, 2013). Executive functioning is important for acquiring some skills such as social skills, academic skills, learning, self-regulation, and daily living skills. The fact that students with autism have impairment in executive functioning affect their self-care skills that require sequencing such as dressing up, tie shoes, etc. (Pratt et al., 2017). So, children with autism have deficits in adaptive behavior as it is typically below child's IQ (American Psychiatric Association, 2013). Examples of adaptive behavior and self-care skills that students with autism have problem with may include hygiene, washing hands, maintaining healthy, dressing, caring of clothes, self-entertainment and following a schedule (Meister & Salls, 2015; Volkmar, et al., 2014). Students with autism have poor functional independence in self-care skills due to the difficulties in fine motor skills and atypical sensory responses (Jasmin et al., 2009).

Self-care skills are defined according to the American Occupational Therapy Association (1994), as the activities that a person does to take care of his body (as cited in Jasmin et al., 2009). It is well documented in research that self-care skills are vital skills that all humans should maintain. Self-care skills include several skills such as hand washing, toothbrushing, dressing, completing household chores, washing face, combing hair, handling money, using toilet, bathing and eating. The level of independence of these skills determines the child's readiness for integration in day care and school (Jasmin et al., 2009).

Self-care skills are not only important for the student only but also for the whole community as independent self-help skills promote high level of hygiene in school settings that decrease medical expenses and also decrease the loss of school days because of sickness and infection. Additionally, self-care skills can increase parents' productivity when they don't have to miss their work or activities to stay at home and look after their sick child (Harkavy, 2009).

2.4 Improving Self-care Skills of Students with Autism

Many interventions had been conducted to help students with autism improve their self-care skills such as self-operated auditory prompting systems (Mays & Heflin, 2011), Applied Behavior Analysis (ABA) (Matson, Hattier, & Belva, 2011), pictorial activity schedules and peer tutoring (Carothers & Taylor, 2004). In addition, Treatment and Education of Autistic and related Communication-handicapped Children (TEACCH) program and discrete trial training, both developed by Loovas, have been used to enhance adaptive behavior and self-care skills for students with autism (Whitman, 2004).

Currently, there is a clear shift in interventions used with autism from the auditory or language-based approaches (verbal directions, prompts, auditory prompting systems) to visual instructional interventions as students with ASD tend to learn efficiently by visual approaches and this may be related to their atypical development of language (Nikopoulos & Keenan, 2006).

A visual pedagogy was used by Pilebro and Bäckman (2005) to teach oral hygiene to students with autism. In this study, students with autism were taught toothbrushing skill through pictures that depict each step of the skill. The findings of this study indicated that all children were successfully taught the skill and their teeth

became healthier after 12 months. Therefore, according to Pilebro and Bäckman (2005) the visual pedagogy was a useful tool in teaching children with autism how to care for their oral hygiene.

Recently, technology is used for educational purposes. It allows students to master skills in an attractive way and enable new ways of communication, socializing and learning. Video modeling is one form of assistive technology that can help students with autism to acquire new skills. Assistive technology service is any service that help students with disabilities to select, purchase and use an assistive technology device including ipad, iPod, internet, augmentative communication devices, computer-aided instructions, video modeling, virtual reality and voice output communication devices (Bursztyn, 2007).

There are three types of video modeling, which are: traditional video modeling, video self- modeling and point of view video modeling. In traditional video modeling, a person (e.g. peer, adult) presents the desired behavior (Wilson, 2013). While in video self- modeling, the student himself is the model who performs the target behavior by editing the video to remove the undesired behaviors or errors in order that student watches only himself performing the target behavior at the mastery level (Gelbar, Anderson, & McCarthy, 2012). The third type of video modeling is point of view video modeling in which the video is filmed from the spectator's perspective as only the hands of the model appears in the videos demonstrating the target behavior (Wilson, 2013).

Video modeling has been reported as an effective strategy that can be standardized and generalized across different settings and also it is reusable with different students (Volkmar, et al., 2014). Alternatively, it can be individualized for each student with autism according to his cognitive abilities for teaching him targeted

behaviors (Burns, 2012). Moreover, video modeling increases students' attention by reducing any elements of distraction or stimuli which might be present in the real situation (Volkmar et al., 2014). In addition, video modeling is time and cost efficient (Bereznak, Ayres, Mechling, & Alexander, 2012). Interestingly, video modeling often helps students to maintain and generalize the targeted skills that they achieved (Piccin et al., 2018). Furthermore, it has been reported that point of view video modeling often promotes faster acquisition of the targeted skills than traditional video modeling (Olge, 2012).

In a meta-analysis study conducted by Hong, Gong, Ninci, Morin, Davis, Kawaminami and Noro (2017) to investigate the effectiveness of video modeling single case studies in teaching functional living skills to students with autism, all types of video modeling were found to be moderately effective in all included studies. In addition, all types of functional living skills were taught effectively through all studies.

Nikopoulos and Keenan (2006) mentioned the following guidelines to be taken into consideration while implementing video modeling interventions:

1. A task analysis of the targeted behavior should be done and each step of it should be videotaped and adopted according to the student's ability.
2. One model should be used within the videos.
3. The duration of the video should be 30-40 seconds maximum.
4. The setting appears in the video should be the same sitting that the student will demonstrate the targeted behavior.
5. The action that the student will imitate should appear in the videos from very close perspective.
6. Each video should be displayed at least once for the student.
7. At least two to three minutes should be provided to the student to demonstrate

the behavior and he should be praised whether or not he imitated the displayed behavior.

8. The student should have at least three chances to watch the video again if he failed to imitate the videotaped behavior.
9. Data should be recorded from each trial and the student should demonstrate at least three correct trials before he or she moves to the next step.
10. While planning to the intervention maintenance and generalization of the behavior across settings, time, people and stimuli should be taken into consideration.

2.5 Effectiveness of Video Modeling on Improving Self-care Skills

Many studies have been conducted throughout the years that examined the effectiveness of video modeling on improving self-care skills of students with autism. For example, Meister and Salls (2015) conducted a study using point of view video modeling to evaluate its effectiveness in teaching self-care skills (e.g. tying shoes, washing hands, wiping mouth, opening a combination lock, purchasing for items in the store, etc…) to secondary students with autism. The findings of this study indicated that point of view video modeling was effective as participants showed improvement in the targeted skills. Similarly, Shrestha, Anderson and Moore (2013) used point of view video modeling to teach a student with autism functional self-help skill (e.g. making a snack) and they found that the participant successfully learned and maintained the target skill. However, the participant couldn't generalize the skill to other snacks and different settings.

Lee, Anderson and Moore (2014) combined video modeling with reinforcement and picture prompting to train a student with autism to use toilet. The

participant in this study acquired the targeted skill and generalized it to another setting. Similarly, Norman et al. (2001) used an instructional package of video modeling and Video Prompting to teach self-help skills to two students with intellectual disabilities and one student with autism and ADHD combined with cognitive disability. The targeted skills were cleaning sunglasses, putting on a wrist watch and zipping a jacket. All three participants acquired and maintained the three self help skills. As a result, video modeling intervention was found to be effective to teach self-help skills to students with intellectual disabilities including autism.

In a study conducted by Charlop-Christy, Le, and Freeman (2000) who compared between the effectiveness of video modeling and in vivo modeling in teaching developmental skills to students with autism. Five participants showed quicker improvement in skill acquisitions in video modeling intervention. One of the participants had video modeling training on toothbrushing skill and he demonstrated good acquisition of the skill. Moreover, the participants generalized the targeted skills to different sittings, persons and stimuli. Importantly, generalization was promoted only for skills taught through video modeling. Another comparison was held between the effectiveness of video modeling and point of view video modeling in teaching a self-care skill (table setting and pouring) to students with autism by Burns, (2012). Results of this study indicated that both techniques were effective in teaching the targeted skill to the participants however, no statistically significant differences were found between the two types of video modeling. Nevertheless, it has been noted that a problem of orientation has been shown with the group of video modeling of other model in the part of putting the fork and napkin as they appeared upside down and in the wrong place (right/ left) in the video. On the other hand, the participants that used point of view video modeling didn’t have this problem.

Furthermore, Rosenberg, Schwartz, & Davis (2010) carried out a study in which commercial videotapes (which are commercially available series named as "special kids" that were designed for all students with cognitive, developmental and learning disabilities) and customized video modeling (which are created by the researchers for each of the three participants) were used to teach hand-washing skill to three students with autism. Two participants didn't acquire the target skill by commercial video modeling and subsequently they were exposed to the custom video modeling as they achieved some acquisition of the target skill. However, the third participant mastered 80% of the target skill by watching commercial video modeling and he didn't show more progress by watching the customized videotapes. These results indicated that the content of the videotapes, not the tool itself, is responsible for the acquisition of the participants.

Additionally, in a study conducted by Campbell et al. (2015) to teach hand washing skill to three adolescent students with autism using video modeling on portable handheld device, all participant showed progress in the acquisition of hand washing skill. Therefore, the findings of this study indicated that using video modeling on portable handheld devices is an effective strategy to teach students with autism self-care skills.

Another study utilized video modeling to enhance oral hygiene of students with autism (Popple et al., 2016). In this study, 18 participants were randomly assigned to a control or experimental group. The experimental group received the videos of toothbrushing skill through internet and the intervention was home based. Parents and caregivers responded to a questionnaire and the findings of this study indicated that both groups showed oral hygiene improvement while it was greater in the intervention condition.

In addition, video prompting is a similar technique that was utilized for improving daily living skills for students with autism. For example, Van Laarhoven, Kraus, Karpman, Nizzi, & Valentino (2010) compared between video prompts and picture prompts in teaching daily living skills to students with autism. The targeted skills are folding laundry and meal preparation. The result of this study revealed that Video Prompts intervention was more effective and efficient than picture prompts. Another similar study that was carried out by Bereznak, Ayres, Mechling and Alexander (2012) who utilized Video self-Prompting to improve daily living skills of students with autism. Findings of this study showed that video self-prompting is an effective strategy in increasing participants' independent performance of daily living tasks.

One of the methods that were added to video modeling intervention is narration (voice over instructions) which was used by Smith, Ayres, Mechling and Smith (2013). The purpose of this study was to compare between the effectiveness and efficiency of both video modeling with narration and video modeling without narration in teaching functional skills including preparing appetizers and drinks, decorating the room, and setting up an age appropriate game to adolescents diagnosed with autism. The results revealed that the video modeling with narration was effective and efficient for two of the participants to acquire the target skills. Although the other two participants preferred video modeling with narration, there was no difference for them between the two types of video modeling in acquiring the target skills. These results revealed that video modeling either with or without narration is an effective instruction tool for students with autism.

Moreover, Ohtake (2015) used a method of video modeling, which called "Video Hero Modeling", to enhance daily living skills (e.g. drying hands, folding

sweater and pants and reading lunch menus aloud) of a student with autism. In this method, a cartoon hero character was used as model. Video Hero Modeling was effective intervention in improving all targeted skills of the participant. A similar intervention included a combination of an animated cartoon hero and a realistic adult representing the hero character whose face doesn't appear in the video for teaching bathroom- related skills (e.g. drying hands, arranging shoes, covering buttocks, and tucking shirt) to a student with autism (Ohtake, Takahashi & Watanabe, 2015). The results of this study showed that Video Hero Modeling improved the participant's acquisition of all four bathroom- related skills.

Although previous studies reported that video modeling is an effective strategy to teach students with autism different skills, in the Arab world few studies were conducted to investigate the impact of using video modeling on improving students with autism' self-care (Bayomi, 2009), play (Omar, 2012) and social skills (Qwasema, 2014).

In the UAE, there are two studies that used video modeling as intervention for students with autism. For instance, Alzyoudi, Sartawi, and Almuhiri (2015) conducted a study to teach social skills for students with autism. The targeted skills in this study were social initiation skills, conversational skills, appropriate non-verbal communication and answering or asking informational questions. The findings of this study indicated that video modeling was an effective instructional tool for teaching social skills for all five participants. The other study conducted by Olsen, Bailey, and Gould (2018) who used video modeling to teach culture specific dressing skills to students with autism. The target skill was dressing ghutra and agal, a traditional Emirati head covering for men. Two participants acquired the skill and generalized it to different settings and persons while the third participant failed to complete only one

step of the skill.

Overall, from the literature reviewed above, video modeling has been found to be an effective strategy that can enhance different skills for students with autism. Therefore, this study utilized point of view video modeling to improve self-care skills (hand washing and toothbrushing skills) for a student with autism.

2.6 Summary

Children with autism have difficulties in self-care skills such as oral hygiene, hand washing skills, dressing, caring of clothes, self-entertainment and following a schedule dressing, washing face, combing hair, using toilet, bathing and eating (Jasmin, et al, 2009; Volkmar, et al., 2014). Previous studies reported that self-care skills can be taught to students with autism (e.g. Matson, Hattier, & Belva, 2011; Mays & Heflin, 2011; Whitman, 2004). From the literature reviewed above, it has been found that video modeling is an effective instructional tool that can be used to teach self-care skills for students with autism (Bereznak et al., 2012; Lee et al., 2014; Meister & Salls, 2015; Shrestha et al., 2013; Smith, et al., 2013; Ohtake, 2015; Ohtake, et al., 2015; Rosenberg et al., 2010; Van Laarhoven et al., 2010).

In the Arab world, few studies were found that examined the impact of using video modeling strategy to enhance self-care skills of students with autism (e.g. Alzyoudi, Sartawi, and Almuhiri, 2015; Bayomi, 2009; Olsen, Bailey, and Gould, 2018). To date, no study in the UAE was found that used point of view video modeling to enhance hand washing and toothbrushing skills. Therefore, the aim of this study was to investigate the impact of using point of view video modeling to improve hand washing and toothbrushing skills of a student with autism.

Chapter 3: Methodology

3.1 Overview

This study examines the effectiveness of using Point of View Video modeling in teaching self-care skills for a student with autism. In this chapter all aspects of the methodology section will be discussed including research design, sampling technique, information about the participant, instrumentation, procedures, data collection and data analysis.

3.2 Research Design

A single subject ABA design was used in this study to measure the effectiveness of the intervention on improving self-care skills of a student with autism. Single subject design is a scientific methodology that is experimental rather than correlational or descriptive (Horner et al., 2005). “In single subject designs each participant serves as his or her own control” (Gay, Mills, & Airasian, 2011, p. 294). The purpose of the single subject design is to identify the causal correlation between the dependent and independent variables (Horner et al., 2005). Special education is a field that emphasizes on active interventions that specifically focus on the individual as a unit and it provides practical procedures that can be used in schools, home or in the community. Horner et al., (2005) stated that single subject design has several advantages that make it appropriate for using in special education. Among these advantages, it focuses on individuals not on groups. It provides detailed analysis about respondents and non-respondents to the intervention. It allows to test the validity of conceptual theories that predict the condition that relate to behavior’s change. Finally, it is cost effective approach that identifies the educational interventions that could be

applied to a larger scale as replicating single subject studies gives more guidance for policy directives.

ABA design was used in the current study by collecting data for one participant while performing two tasks (hand washing and brushing teeth). In the ABA if participant's performance improved, the intervention is judged to be effective (Gay, Mills, & Airasian, 2011). The study implemented through four phases that explained in details below; baseline, intervention, maintenance and generalization phases

The dependent variable that had been measured is self-care skills (hand washing and brushing teeth skills). The independent variable is the intervention which is Point of View Video Modeling.

3.3. Participants

One male student diagnosed with mild autism participated in this study. The student was enrolled in Special Education Center in the Emirate of Abu Dhabi. Yossif (anonymous name) is 8.5 years old. He is from Saudi Arabia. He joined the Center one month before the intervention program. Yossif lives in the hostel of the Center. He had been diagnosed as mild autism according to diagnostic criteria of the DSMVI and Results of the Gilliam Autism Rating Scale - Second Edition (GARS-2) reported a score of 73. Yossif had been diagnosed with severe disability on Vineland Adaptive Behavior Scale where he scored 31. Results of the language tests that have been administered by a speech pathologist indicated that the student has a severe delay in both expressive and receptive language. According to the student's IEP, the student never received training on either washing hand nor brushing teeth skills, therefore did student's IEP goals include both skills.

All assessment and intervention sessions were administered by the student's special education teacher. The special education teacher is 27 years old. She is a female Egyptian who is currently pursuing her master's degree in special education. She has 8 years' experience working as a special education teacher and psychologist.

Another observer was a psychologist who was responsible for recording the participant's performance in the checklists. She is 25 years old Egyptian with 5years of experience in clinical psychology.

As it has been mentioned earlier, the Center is located in the Emirate of Abu Dhabi and it offers services for many types of disabilities such as autism, intellectual disabilities, developmental delay, and multiple disabilities. Also, several services are available in this center such as speech therapy, occupational and physical therapy, early identification and diagnosis services, school nurse services, psychological services and assistive technology services. In addition, the Center includes facilities like hostel for people of determination as most of students are from outside the country.

Purposive sampling technique was used to choose the participant of this study. Purposive sampling technique allows the researcher to select the participant according to some certain criteria. In this study the participant was selected based on specific criteria. The inclusion criteria that were set for the participant of this study were as follow: a) the participant should be formally diagnosed by a registered phycologist as mild or moderate autism spectrum disorder with age ranges from 8 to 11 years old, b) to have the ability to engage in a task for 10 minutes at least, c) the participant should understand verbal orders and to have good attention, and finally, d) the participant should have difficulties in hand washing and teeth brushing skills and these two skills should be part of the participant's IEP goals.

The participant selection process included some stages. First, the Center's manager was asked to nominate some students that match the inclusion criteria of the study that has been discussed earlier. Secondly, two students with autism were nominated for the study by the Center manager. Third, the researcher checked the files of both students and found that one student is diagnosed with ADHD according to the tests implemented by the Center's psychologist, therefore, this student was excluded from participating in this study. The other student was included in this study because he matched the inclusion criteria of the study as follow: a) is 8.5 years old, b) diagnosed with mild autism, c) he has good attention, d) he can engage in a task for 10 minutes and e) he understands verbal orders. And finally, f) he has difficulties in hand washing and toothbrushing skills. To ensure that the participant lacks hand washing and toothbrushing skills, a pretest was administered by the researcher. The pretest was identical to the baseline phase as the student was asked to either wash his hands or brush his teeth and the teacher gives him an order for each step of the skill (e.g., "take some soap"). Findings of the pretest confirmed the IEP goals that the participant has some difficulties in hand washing and teeth brushing skills.

3.4 Setting and Materials

All sessions took place in a bathroom. The materials used were a soap and a towel for the hand washing skill, toothbrush, toothpaste, cup and a towel for the toothbrushing skill. The bathroom is located inside the psychologist room, the towel hanger was too high, and so a lower plastic towel hanger was set on the wall beside the sink so that the student can reach it easily. The videos were displayed using iPad, which was held on the sink rack in front of the student for better vision.

3.5 Instrumentation

3.5.1 Checklists

Two checklists for hand washing skill were developed by the researcher. The first checklist (see Appendix1) was used to determine if the step was performed correctly or not and to identify the type of error occurred during the step implementation whether it is *duration, latency, sequence or topographical* error. The *latency* error occurred when the participant doesn't initiate within 5 seconds after pausing the video while the *duration* error is recorded when the participant completes the step in more than 10 seconds. In addition, when the student changes the sequence of the steps it will be recorded as *sequence* error and when the student fails to complete the step in the correct way it is called a *topographical* error. This checklist was used during all phases of the study: baseline, intervention, maintenance and generalization phases.

The second checklist (see Appendix 2) was used in the intervention phase only to determine if the step had been performed using the video modeling only or it has been performed using video modeling and physical prompting. Video Modeling only refers to a technique in which the student is expected to watch a video that contains a number of steps on one skill and then to perform the steps independently and correctly, while the other option is video modeling with prompting which occurs when the student watched the videos for three times and still can't initiate or perform the step independently in a correct way and then the teacher interfered to physically prompt the student to perform the step correctly.

Both checklists were developed according to the task analysis of hand washing skill that was adopted from Mays and Heflin's study (2011). To ensure the content

validity, the checklists were reviewed and modified according to the experts' recommendations. Those experts are three special education teachers with long experience in teaching students with autism. The modifications that were applied according to the researcher point of view and the recommendation of the experts including adding an additional step and eliminating the last three steps of drying hands.

For the toothbrushing skill, the researcher developed two checklists. The first checklist (see Appendix3) was used in all phases of the study: baseline, intervention, maintenance and generalization phases to determine the performance of the steps whether they were correct or there were any errors. The errors were identified as latency, duration, sequence or topographical errors. The second checklist (see appendix 4) was developed to be used in the intervention phase only to determine the strategy used within each step whether it was video modeling only or video modeling plus physical prompting. The toothbrushing checklists were developed based on extensive literature review (e.g., Brown, 2012; Horner & Keilitz, 1975) and review relevant websites and checklists (e.g., https://www.thescottcenter.org/advisor/tool-kits/teeth-brushing) and it has been modified according to the experts' recommendations.

3.5.2 Videos

Videos were developed by the researcher according to the task analysis of each skill; each video depicts one step of the skill. Video shots location was in a bathroom in the center in order to minimize distraction and keep the participant focused on the action displayed within the videos as it was suggested by Nikopoulos, & Keenan (2006) that the setting appears in the video should be the same setting that the student will demonstrate the targeted behavior.

The researcher preferred to use a model of the same age and gender of the participant as it has been found that a high degree of similarity between the model and the participant results in better imitation (Richards, Heathfield, & Jenson, 2010). Therefore, the model that performs in the videos is a10 years old typical boy. The model's face didn't appear in the videos and only his hands were shown since it is Point of View Video Modeling technique; except in the videos of teeth brushing skill, the model's mouth had to be shown through the mirror in some steps.

The researcher used the Point of View technique by taking the shots from above the model's shoulder and let only hands appear in the videos. In the toothbrushing skill, the model's mouth appears in some videos through the mirror, but the video shots were performed directly above the model's shoulder. Video prompting strategy was used in this study. More specifically, each step was presented on a separate video by a performer. The videos were recorded and edited on iPhone by a professional photographer. Each video was edited, and its speed was slightly reduced to promote the visual processing and to allow the student to realize the content of the video. Later, a narration for each step was added to the videos which was made by a female person who speaks Saudi dialect, which is the same dialect of the participant. The maximum duration of each video of a step is 10 seconds. According to a meta-analysis of 29 studies that was conducted by Bellini and Akullian (2007), the median duration of a video is 3 minutes (as cited in Kutty, 2012).

3.6 Reliability and Validity

To determine the inter-rater reliability; three special education teachers were asked to check each step of the task analysis and to determine whether it is related or unrelated to the skill. The inter-rater agreement using kappa score was 0.85.

In addition, the content validity of the instrument was determined by asking three experts (special education teachers) to review both checklists and determine whether all items are related to the skills (hand washing and toothbrushing). The researcher made some modifications in the final copy of the instrument to address the experts' feedback. For the toothbrushing checklist the modifications included:

a) Adding a first step that demonstrates going to the sink.
b) Replace the steps of brushing the outside, inside and biting surfaces of the teeth with the steps of brushing right and left sides and up and down to make it easier for the student.
c) Exclude the step of rinsing the sink with water to remove any toothpaste foam.
d) Exclude the step of discard the disposable because the student uses a towel not a tissue.

In addition, the hand washing checklist was modified as follow:

a) Adding a first step that demonstrates going to the sink
b) Eliminate the last three steps of drying hands.

In addition, content validity of videos was determined by the same three special education teachers as they were asked to determine whether the videos are related to the two skills or not. Videos were modified according to the raters' recommendations on the level of the dialect of the narration. For instance, the sentences used as recommended include little words, and the dialect used was the same dialect that was used by the participant's community as the first copy of the videos were in a different dialect. Finally, the videos were slow down to give the participant the chance to understand them.

3.7 Procedures

This study has conducted during the last semester in the school year 2017/2018. The timeline that was set for implementing this study was six weeks. A consent form was obtained first from the manager of the Center (see Appendix5). In addition, a consent form was obtained from the participant's parents (see Appendix6). The study implemented through four phases that explained in detail below. The phases are baseline, intervention, maintenance and generalization phases. The intervention starts with hand washing skill as a less complicated self-care skill than toothbrushing.

3.8 Response Definitions and Data Collection

Prior to starting all phases of the study, the targeted skills which are washing hands and brushing teeth were task analyzed into several steps. Participant's responses were recorded through all phases either as correct or incorrect response on each step of the task analysis. A correct response recorded when the participant initiates within 5 seconds after watching the video and when he completes the step within 10 seconds. An incorrect response is recorded in four situations as follow: when the participant doesn't initiate within 5 seconds after pausing the video (latency error), when the participant complete the step in more than 10 seconds (duration error), when the student changes the sequence of the steps (sequence error) and when the student fail to complete the step in the correct way (topographical error). These four errors are recorded in the checklist by the teacher and the researcher to determine inter-rater reliability. The percentage of correct responses was calculated for each session by dividing the sum of correct responses on the total number of the steps of the task analysis.

3.9 Baseline Phase

The aim of the baseline phase was to measure the participant's abilities in hand washing and brushing teeth skills. The participant was asked to do the steps of the task analysis without watching the videos. A criterion of less than 70% of steps in each skill was set for baseline so that the student will be included in the study. Baseline data was collected through three consecutive sessions. Each session started with a verbal order by the teacher for the participant to either wash his hands or brush his teeth. The teacher said, for example, "Wash your hand." And give the student 5 seconds to initiate. If the participant didn't initiate within the 5 seconds, the teacher starts to give an order to start the first step according to the task analysis, for example, "Stand in front of the sink." and also gives the student 5 seconds to initiate the step. If the student didn't initiate within the 5 seconds, the teacher starts to give an order to start the next step and so on until the task completed. If the student failed to perform a step, the teacher interrupts and finishes the step and then moves to the next step. This will be recorded as a latency error.

3.10 Intervention Phase

The intervention phase aims to train the participant on hand washing and toothbrushing skills using Point of View Video Modeling. It lasts for 6 weeks at a rate of three sessions per week. Each session in the intervention phase starts with a verbal order to the student to do the task, for example, "Let's go and brush your teeth."

Trials starts by placing the student in front of the bathroom door then the instructor displays the video of the first step on the iPad and wait 5 seconds until the student initiate and 10 seconds to complete the step. The instructor gives verbal

directions if the student didn't initiate within the 5 seconds. Videos for each step are displayed for maximum 3 times per session before moving to the next step. In case the participant doesn't perform the task or performed it incorrectly after three trials, the teacher interrupts and physically prompts the student and then move to the next step. Physical prompting is used on the following way: Partial physical prompting is used first and if the student still doesn't perform the step; the teacher uses full physical prompting before moving to the next step. A checklist is used to record if the student completes the step with partial or full physical prompting or even with only video modeling. At the end of the intervention phase, the total steps that had been completed with video modeling only and those with prompting and video modeling is compared to identify the effectiveness of video modeling.

3.11 Maintenance Phase

This phase is the same as baseline phase since the participant is asked to do the steps of the task analysis without watching the videos. The Criteria for the intervention phase was set as 100% for hand washing skill and 80% for teeth brushing across three consecutive sessions. Once the criterion met, it is the time to begin the maintenance phase.

3.12 Generalization Phase

In this phase, the student is asked to wash his hands and brush his teeth in different two bathrooms (class's bathroom and cafeteria's bathroom) in order to determine if the participant can generalize the skill to other settings.

At the end of all phases, the teacher was interviewed to give her feedback about the instrument used in the study. The interview was semi structured with open ended

questions. Semi structured interviews generally include a set of predetermined open-ended questions, with other questions that may emerge from the conversation between interviewer and interviewee ⁄s. (DiCicco-Bloom & Crabtree, 2006). Mainly, semi structured interviews "consist of several key questions that help to define the areas to be explored, but also allows the interviewer or interviewee to diverge in order to pursue an idea or response in more detail." (Gill, Stewart, Treasure & Chadwick, 2008, p. 291). Moreover, Open ended questions allow the researcher to obtain detailed information from the participant that the researcher even may not have expected (Gay et al., 2011) as it requires more than yes or no responds (Gill et al., 2008).

3.13 Data Analysis

Descriptive statistics were used to analyze the data as the percentage of steps that were accomplished independently in each session were calculated. This process was applied in each phase and the results were displayed in a graph to compare the participant's performance through phases. By this graph, the researcher can compare between the participant's performance in all phases and if participant's performance improved; the intervention is judged to be effective (Gay et al., 2011).

In the intervention phase the percentage of the steps that the participant accomplished by using video modeling only was calculated as well as the percentage of the steps that the participant accomplished by using video modeling plus prompting. The results of these data were presented on a separate graph. In single subject designs, data is typically analyzed using visual inspection of the results presents on the graph (Gay et al., 2011).

Chapter 4: Results

4.1 Overview

This chapter will discuss the major findings of this study through answering the research questions. More specifically, analysis of quantitative and qualitative data will be discussed in detail. At the end of this chapter, a summary of the major findings of this study will be discussed.

The purpose of this study was to examine the impact of using Point of View Video Modeling technique on improving hand washing and brushing teeth skills of a student with autism. The following research questions were examined in this study:

1. What is the impact of using Point of View Video Modeling on improving hand washing skill of a student with autism?
2. What is the impact of using Point of View Video Modeling on improving teeth brushing skill of a student with autism?
3. To what extent can hand washing and toothbrushing skills, gained through the implementation of Point of View Video Modeling, be generalized to different settings?

On the following section, each research question will be discussed separately.

Research Question1: What is the impact of using Point of View Video Modeling on improving hand washing skill of a student with autism?

The results of this study provide promising evidence that Point of View Video Modeling is an effective approach to teach students with autism hand washing skill. If we examine the student's performance as it is displayed in Figure 1 below in session 4, in comparison to their performance in session 21, we will find that overall the

student performed better with the use of Point of View Modeling technique. Additionally, as it is shown in Figure 1, it is clear that the student performance in the baseline phase (60%) was stable compared to the intervention phase where it fluctuates through the first eight sessions. This could be attributed to the fact that, in the first few sessions, the student was little confused about the procedures, process, and what exactly he should do. After that, the trend starts to increase at session nine which indicates an overall improvement of student performance. In session 18 the student achieved the target of performing all steps of hand washing skill independently (100%).

If we examine the Figure more closely, we will find that in session 16, the student's performance decreased dramatically from 90% to 60%. The cause behind that could be attributed to the fact that the student was tired as he had a lot of activities in his schedule and he was not interested in the videos at all. So, the teacher had to physically prompt him, which affected his score negatively. But after this session, the trend goes up again until the performance criterion was reached.

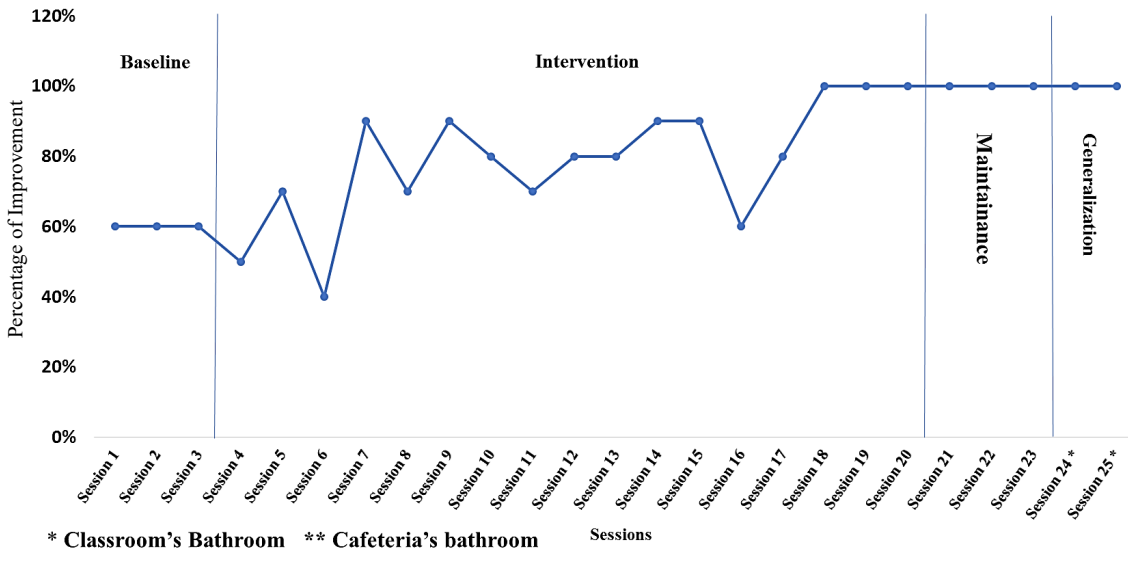

Figure 1: Student's performance on hand washing skill

With respect to maintenance, Figure 1 illustrates that the student performance in the maintenance phase was stable on the achieved criterion as the student maintained the skill at the same performance after the intervention had ended in three consecutive sessions; from session 21 to 23.

If we examine Figure 2 below more closely, we will find that the total number of the steps that have been performed by the student while using Video Modelling only is increasing throughout the intervention phase, whereas the total steps performed by the student using Video Modelling plus prompting is decreasing. In 15 out of 17 sessions, prompting was used alongside with video modeling while in the last two sessions (16 and 17), the student did not use any prompting. Based on this finding, it seems that the prompting technique was fading gradually throughout sessions. This could be attributed to the practice factor as, after the first three sessions, the student started to respond and to make a connection between the videos and the physical prompting he received. Therefore, the prompting was gradually reduced across the intervention sessions and only video modeling was enough to improve the student's performance in most of the steps at the end. These findings also indicate that prompting is a useful technique when it is used with video modeling intervention.

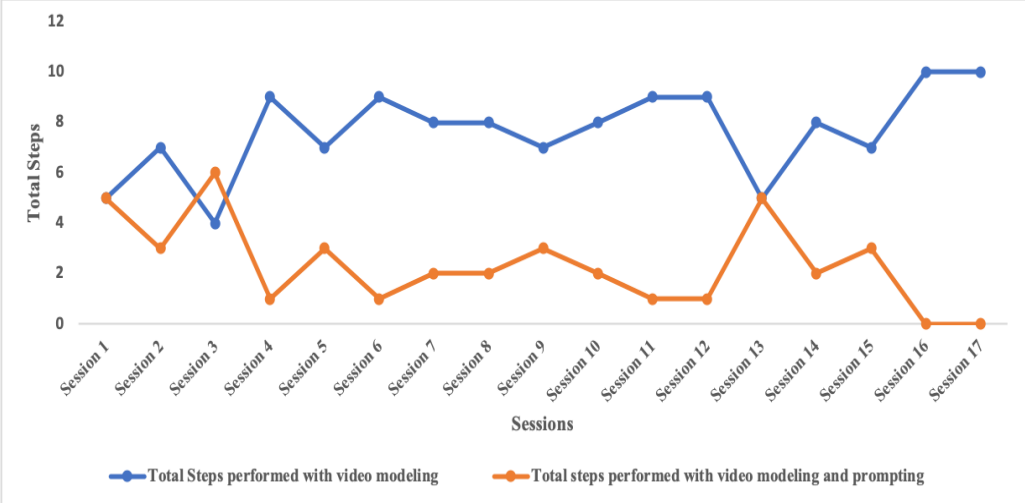

Figure 2: Intervention phase of hand washing skill

Research question 2: What is the impact of using Point of View Video Modeling on improving toothbrushing skill of a student with autism?

Figure 3 below illustrates the student's performance on toothbrushing skill across all phases. For the baseline phase, the student had a mean baseline rate of 38.6% through three executive sessions. As displayed in Figure 3 below the overall trend of student's performance in the brushing teeth skill through intervention phase is increasing over the sessions until the set criterion 80% was reached in session 10 and even was exceeded in the next two sessions. The intervention was not stopped when the student reached the criterion until the performance remained stable for the last three sessions in the phase. Regarding the maintenance phase, the toothbrushing skill was maintained after the intervention ended as no more videos were shown to the student in this phase. The Figure below also shows that the student's performance remained above the target 80 % in the maintenance phase across the three sequential sessions.

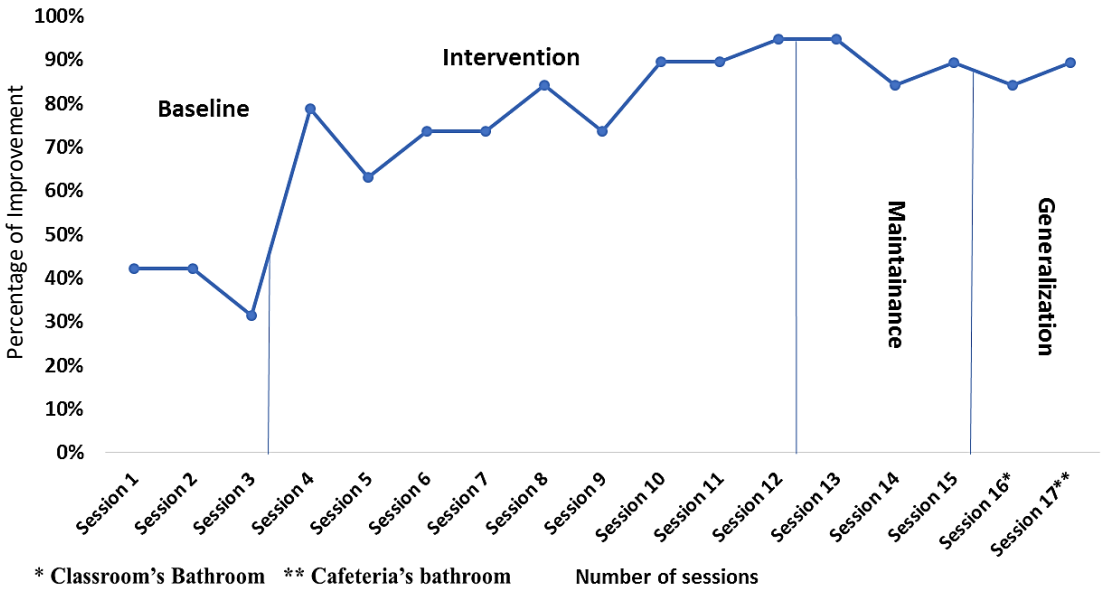

Figure 3: Student's performance on toothbrushing skill

Figure 4 below indicates the student's performance on toothbrushing skill through intervention phase regarding the technique used in sessions whether it is video modeling only or video modeling plus physical prompting. The top panel of the Figure represents the total steps performed with video modeling only and the bottom panel represents the total steps performed using video modelling and prompting techniques. The Figure shows that the overall trend of the top panel increased which means that the total steps performed with video modeling only rose throughout the intervention phase whereas, the bottom panel of the Figure declined. This can be interpreted as the total steps accomplished by using video modeling plus physical prompting decreased across the intervention sessions. In other words, the physical prompting was faded gradually throughout the sessions and the student became able to rely on the video modelling alone to perform the skill.

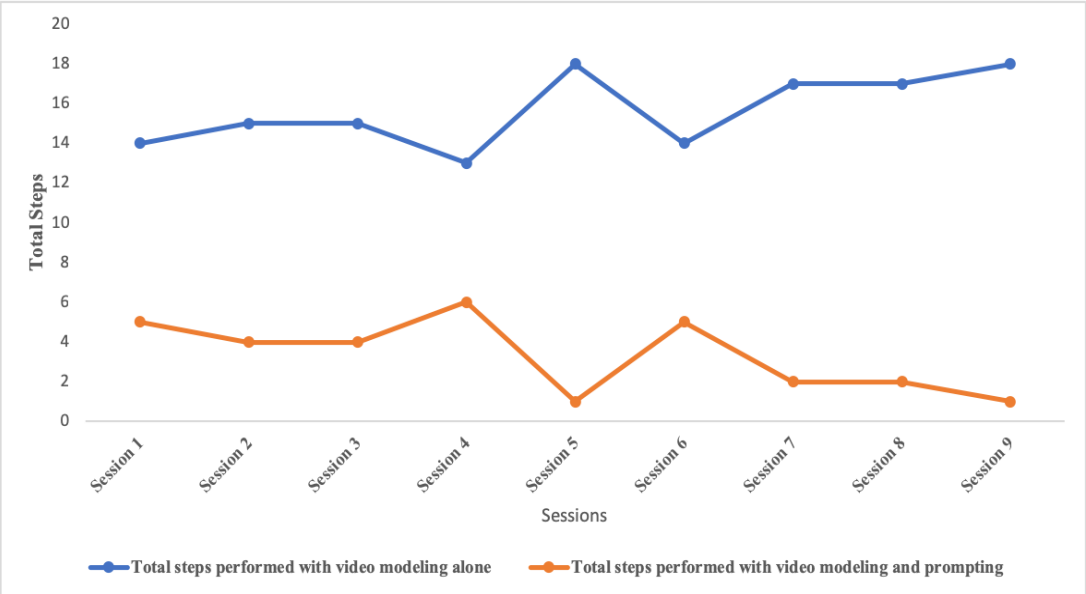

Figure 4: Intervention phase of toothbrushing skill

The third research question is: To what extent can hand washing and toothbrushing skills, gained through the implementation of Point of view video modeling be generalized to different settings?

The findings of this study indicated that the student generalized hand washing and toothbrushing skills that he gained through the point of view video modeling intervention, to two different settings. If we examine Figure 1 in sessions 24 and 25, we can find that hand washing skill was successfully generalized, on the criterion level, to two different locations; class's bathroom and cafeteria's bathroom. Moreover, regarding toothbrushing skill, as displayed in Figure 3, the student generalized the skill, in sessions 16 and 17, for two different locations at the mastery level including class's bathroom and cafeteria's bathroom.

4.2 Additional Findings

In this study, there was a significant difference in the acquisition of the two skills. The student needed a smaller number of sessions to acquire toothbrushing skill

than hand washing skill. Participant's acquisition of toothbrushing skill was faster and less fluctuating than hand washing skill although toothbrushing skill is a more complicated skill than hand washing. This could be due to the practice effect as the student became more familiar with the videos throughout the first intervention on hand washing skill in which the student was confused with the tool in the first few sessions and it took him some time to understand what he should do after watching the videos. On the other hand, when he started the toothbrushing intervention, he was more confident about what he should do, and he acquired the skill steadily and smoothly and so he needed just few sessions to master the skill. In addition, some steps of both skills are identical such as "go to the sink", "turn on water" and "turn off water", which the student had mastered already in the hand washing intervention and this could explain the rapid acquisition of the toothbrushing skill.

4.3 Findings from the Structured Interview with the Teacher

A face to face interview was conducted with the teacher who implemented the sessions to get her feedback on the strategy used in this study. The interview was semi structured, and the questions were open ended. The teacher was asked few questions about the following topics: a) the feasibility of using video modeling technique with students with autism in general, b) the possibility of using video modeling technique in classrooms, c) the challenges that the teacher faced within sessions, d) the pros and cons of video modeling from the teacher's point of view and finally, e) the possibility of using video modeling to teach other skills. The teacher's responses to the interview questions are thematically analyzed and five main themes were revolved including: individual differences, novelty, challenges, technology, and generalizability.

1. Individual Differences**:**

This theme focuses on the need of individual differences to meet students' needs. The teacher emphasized on taking into consideration the individual differences between students as not all students with autism are the same; since most of them have ADHD and they lack enough attention to be engaged in the task, as she stated:

> "Video modeling can't work for every student with autism because there are individual differences between students and because it needs the student to have attention at least at medium level. Also, it requires that the student does not have ADHD which most of students with autism have. So, it is a must to do a pretest before training as we did in this study."

2. Novelty:

This theme is focusing on the fact that video modeling is a new method of teaching self-care skills to students with autism. The teacher thinks that video modeling is a new way of learning that students would enjoy it and it can help students with autism to acquire new skill, as she stated:

> "Video modeling is a wonderful thing as it is a new way of learning that use technology such as cellphones or tablets. We already used iPad in this study, and it was very useful."

3. Challenges:

The challenges and difficulties that the teacher indicated that she has faced within sessions will be discussed in this theme.

3.1. Worrying about damage:

One of the challenges that the teacher faced during sessions were that using the iPad was little disturbing for her as she was concerned that the iPad may be

fallen or damaged, so she thinks that if the videos was displayed on a big screen hanged in the bathroom, it would be better and easier, as she said:

> "Just I was concerned that the iPad may fall and damaged, so if these videos could be displayed on a fixed big screen like a television or fixing the iPad in the session settings (bathroom), it would be better."

3.2.disruptive behaviors:

Another challenge discussed by the teacher was that the student displayed some disruptive behaviors in some sessions therefore it was cancelled; such as beating himself, be anxious and refusing to engage, as she stated:

> "Sometimes he had some behaviors such as hitting himself, get nervous and refusing to respond to the videos."

> "The student should be ready to have a session because sometimes he didn't respond as he felt bored, so we can't give him more than one session daily."

3.3. An assistant needed:

The teacher stated that if this program of video modeling has to be implemented during the school day, the teacher would need an assistant to hold the iPad while she is physically prompt the student, as she said:

> "The difficulties that I faced were that I needed an assistant during sessions"

4. Technology:

This theme is about benefits of video modeling as a sort of technology. The teacher reflects that the advantage of the intervention is that it is an innovative learning method that uses technology, as she stated:

> "Advantage of this intervention is that we used a new way of learning which is technology"

5. Generalizability:

This theme is about using video modeling to teach other skills to students with autism. The teacher agrees on the possibility of using video modeling to teach various skills to students with autism whether they are self-care skills or other skills, as she stated:

> "It can be used for other self-care skills such as combing hair, changing clothes, tidying up the place or eating training and also it can be used for other different skills because it is a new teaching method, but we should take into consideration the individual differences between students."

To conclude, the interview of the teacher revealed some findings. First, the teacher liked video modeling intervention as she found that it is new and successful teaching strategy. Moreover, she thinks that video modeling is an interesting tool for students. In addition, she thinks that video modeling can be used to teach many skills to students with autism, whether it was self-care skills or other different skills.

Chapter 5: Discussion

5.1 Overview

This chapter includes a discussion of the study results regarding each study objective. Conclusions of the study will be highlighted. In addition, it embraces the implications of the study for special education teachers and for future research.

5.2 Discussion

The objectives of this study are three folds including to examine a) the impact of using Point of View Video Modeling technique on improving hand washing skill for a student with autism, b) the impact of using Point of View Video Modeling technique on improving toothbrushing skill for a student with autism, and c) to examine the possibility of generalizing both self-care skills (hand washing and toothbrushing) to other different settings.

Regarding the first objective, the results of this study revealed that point of view video modeling was an effective strategy to teach hand washing skill to a student with autism. The student mastered the skill and maintained it when the intervention has been stopped and the participant was able to do all the steps of the hand washing skill without watching any videos. This result is consistent with the findings of the study conducted by Campbell et al, (2015) that aimed to teach hand washing skill to three adolescent students with autism using video modeling on portable handheld device. In Campbell et al. ’s study, all participant showed progress in the acquisition of hand washing skill which indicated that using video modeling on portable handheld devices is an effective strategy to teach students with autism self-care skills. Moreover, this result also confirmed the result of the study conducted by Rosenberg, Schwartz

and Davis (2010), in which one student mastered the hand washing skill using the commercial video modeling while the other two students showed some acquisition of the skill using a custom video modeling.

Concerning the second objective, the results of the study showed that point of view video modeling was a successful tool to improve toothbrushing skill for a student with autism. Moreover, the student in this study not only mastered the skills but also the skill has been maintained even when no more videos had been shown to the student. This result is consistent with the study carried out by Popple et al., (2016) that utilized video modeling to enhance oral hygiene of students with autism. Findings of this study indicated that all students showed oral hygiene improvement after intervention. In addition, this result is also consistent with the findings of the study conducted by Charlop-Christy et al. (2000), in which five participants showed quicker improvement in skill acquisitions in video modeling intervention. One of the participants had video modeling training on toothbrushing skill and he demonstrated good acquisition of the skill.

Regarding the third objective, the results of the current study showed that both hand washing and toothbrushing skills had been generalized to two different settings (class's bathroom and cafeteria's bathroom). The student generalized the skills at the mastery level of each skill to the two different settings mentioned. This result was consistent with the results of the study carried out by Charlop-Christy et al., (2000) as the participants generalized the targeted skills (e.g., self-care, independent play, cooperative play, social play, conversational speech, oral comprehension, spontaneous greetings, and expressive labeling of emotions) to different settings, persons and stimuli. In addition, this finding is consistent with Lee et al., (2014)'s study that combined video modeling with reinforcement and picture prompting to train a student

with autism to use toilet. The participant acquired the targeted skill and generalized it to another setting.

Generally, the results of this study indicated that point of view video modeling is an effective strategy to enhance self-care skills of a student with autism. These results confirmed the results of the pilot study conducted by Meister and Salls (2015) who evaluated the effectiveness of using point of view video modeling in teaching self-care skills to secondary students with autism. Findings of this study indicated that point of view video modeling was effective as participants showed improvement in the targeted skills. Similar findings emerged from the study of Shrestha et al., (2013) that used point of view video modeling to teach a student with autism functional self-help skill (e.g. making a snack) and they found that the participant successfully learned and maintained the target skill.

In addition, the results of this study supported that video modeling, in general, was an effective intervention to teach students with autism daily living skills (Bereznak, et al., 2012; Van Laarhoven, et al., 2010), functional and self-care skills (Bayomi, 2009; Smith, et al., (2013).

Furthermore, the findings of this study support the findings of the meta-analysis study conducted by Hong et.al (2017) that investigates the effectiveness of video modeling single case studies in teaching functional living skills to students with autism, as it found that all types of video modeling, including point of view video modeling, were approved to be moderately effective in all included studies. In addition, all types of functional living skills were taught effectively through all studies.

Moreover, this study adds to the literature as it demonstrated that video modeling is an effective instructional tool that can be used to teach self-care skills (Bayomi, 2009; Bereznak, et. al, 2012; Lee, et. al, 2014; Meister & Salls, 2015;

Ohtake, 2015; Ohtake, et. al, 2015; Rosenberg, et. al, 2010; Shrestha, et. al, 2013; Smith, et. al, 2013; Van Laarhoven, et. al, 2010). Additionally, this study fills the gap in the literature by evidencing the effectiveness of Point of view video modeling to improve hand washing and toothbrushing skills of a student with autism in the UAE.

The results of the present study were also consistent with Albert Bandura's theory (1969) which suggests that individuals can learn through observation of others displaying behaviors or skills. This observational learning comprises two processes, which are: modeling and imitating. Using video modeling in this study promoted the occurrence of the two processes as the participant watched the targeted behavior displayed in the videos and then he imitated it at the same way. According to Bandura, there are four conditions that promote successful modeling which are: attention, retention, motor reproduction and motivation (Ormrod, 2011). In this study, the student paid good attention to the modelled behavior and this was guaranteed by using video modeling. Additionally, in this study the participant was excited to use the iPad and to watch the videos although he didn't initiate in the first few sessions until he understand that he should imitate the displayed behavior and when he didn't produce the behavior, the teacher interfere and physically prompt the student.

The outcomes of this study indicated that point of view video modeling was a successful strategy to improve hand washing and toothbrushing skills to a student with autism. A visual inspection of the participant's observational data showed a good progress in skill acquisition of hand washing and toothbrushing skills. In addition, the student reached the criterion in both skills and demonstrated the skill without watching the videos in the maintenance phase and even generalized them to two different places. The number of times that physical prompting technique was used through sessions was getting less and the number of steps performed using only video modeling was

increasing throughout sessions until the participant was capable of performing most of steps after watching the videos without prompting.

Another important point that is worthy to be discussed is regarding the sequence error that took place in some steps of both skills. For example, in hand washing skill the participant, in some sessions, performed step (6) “Rub the back of right hand using the left hand” before step (5) “Rub the back of left hand using the right hand”. Also, the same problem occurred in toothbrushing skill. For example, the participant performed step 7 “Brush the inside surfaces of the teeth of the upper jaw.” before step 9 “Brush the inside surfaces of the teeth of the lower jaw”. This can be attributed to the difficulty that the participant has with the orientation (e.g. left / right, up / low). Therefore, special education teachers may need to check the student’s ability to distinguish between directions (right / left or up / low) before teaching students with autism hand washing and toothbrushing skills.

Moreover, the participant was interested in the videos and it grabbed his attention from the first session. The only problem was that in the first session he was confused about what he should do after watching the videos although the teacher gave him the order before displaying the video, but still the whole process was new for him. Later on, he was able to make connection between what is displayed in the videos and the physical prompting he received from the teacher. This indicated that prompting may be necessary for some students to be used within video modeling intervention.

One interesting observation of the participant’s behavior is that he was distracted by the iPad as he wanted to control the videos’ displaying since the iPad was reachable for him, so it would be better if the screen was fixed on the wall.

Findings of the teacher’s interview revealed that the teacher believed that there are advantages and disadvantages of using point of view video modeling intervention

strategy. For example, she thinks that video modeling is an innovative learning method that utilizes technology. In addition, the teacher thinks that video modeling can be used for teaching different skills. On the other hand, the teacher faced some challenges during the intervention sessions as she needed an assistant to hold the iPad while she is prompting the student. A noteworthy point to be mentioned that the iPad was set on the rack of the sink, but the student was touching it with wet hands and that was disturbing to the teacher. So, the teacher preferred to display the videos on a big screen that is fixed on the wall, but this is not usually available in a bathroom.

5.3 Recommendations for Future Research

Future researchers may replicate this study, by fixing a stand for the iPad on the wall to avoid the problem of falling or distraction. Also, another addition could be valuable which is to use self-prompting strategy by giving the student the opportunity to use iPad. This would give the student the control over the sessions and perhaps more attention to the videos.

Future research may need to determine whether physical prompting is a necessary part of the intervention or not through a comparison between video modeling with physical prompting and video modeling without any prompting and this might be by including two groups (control and experimental). In addition, it would be valuable to assess point of view video modeling with other self-care skills with more students with autism as currently a limited amount of research has been carried out examining the effectiveness of point of view video modeling on enhancing self-care skills of students with autism. Additionally, this study could be replicated with other types of disabilities.

5.4 Implications for Teachers

Teachers should consider the positive results of this study and other similar studies in the literature and utilize point of view video modeling in the daily classroom practice to teach students with autism different skills whether using iPad or any other hand-held device or even on a big screen. Also, Rehabilitation Centers may need to consider preparing resources of videos of different skills that are filmed at the same center to be used by teachers in different interventions for different students, therefore, it will save teachers' time and it will be cost effective and also available to everyone to use.

To conclude, the current study investigated the effectiveness of using point of view video modeling on enhancing two self-care skills (Hand washing and toothbrushing) of a student with autism. The participant mastered both skills and maintained both of them. Both skills were successfully generalized to two different settings (class' bathroom and cafeteria's bathroom). These findings added more evidence to the literature and highlight the effectiveness of utilizing point of view video modeling with autism spectrum disorder. Although these results cannot be generalized, they are still very promising. Thus, more investigations are needed in this area as the current literature has little focus on the topic of the current study.

References

Alzyoudi, M., Sartawi, A., & Almuhiri, O. (2015). The impact of video modelling on improving social skills in children with autism: Video modelling. *British Journal of Special Education,* 42(1), 53-68. doi:10.1111/1467-8578.12057

American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders (5th ed.). Arlington, VA: American Psychiatric Publishing.

Bandura, A. (1969). Social-learning theory of identificatory processes. *Handbook of socialization theory and research*, *213*, 262. Retrieved from http://www.uky.edu/~eushe2/Bandura/Bandura1969HSTR.pdf

Bayomi, L. (2009). Fa'alyat birnamig tadreeby letanmyat ba'd maharat alenayah bilthat lada alatfal altawahodeyen [The effectiveness of a training program to improving some of self-care skills for students with autism.]. *College of education Ismalia University Journal.*13, 179-196. Retrieved from http://ncwegypt.mans.edu.eg/eulc_v5/Libraries/Thesis/BrowseThesisPages.aspx?fn=PublicDrawThesis&BibID=10674230

Bereznak, S., Ayres, K. M., Mechling, L. C., & Alexander, J. L. (2012). Video self-prompting and mobile technology to increase daily living and vocational independence for students with autism spectrum disorders. *Journal of Developmental and Physical Disabilities, 24*(3), 269-285. doi:10.1007/s10882-012-9270-8

Bosseler, A., & Massaro, D. W. (2003). Development and evaluation of a computer-animated tutor for vocabulary and language learning in children with autism. *Journal of Autism and Developmental Disorders*, 33(6), 653-672. doi:10.1023/B:JADD.0000006002.82367.4f

Brown, R. A. (2012). *Training and assessment of toothbrushing skills among children with special needs* (Order No. 1515669). (master thesis). Available from ProQuest Dissertations & Theses Global. (1034449044). Retrieved from https://search-proquest-com.ezproxy.uaeu.ac.ae/docview/1034449044?accountid=62373

Burns, A. L. (2012). A comparison of two types of video modeling to teach adaptive skills to children with autism. (Order No. 3550789). (PhD Dissertation). Available from ProQuest Dissertations & Theses Global. (1287069573) Retrieved from https://search-proquest-com.ezproxy.uaeu.ac.ae/docview/1287069573?pq-origsite=summon

Bursztyn,A. (Ed.). (2007). *The Praeger handbook of special education :Individuals with disabilities act (IDEA).* (pp.37-39). Westport,CT:Praeger.

Campbell, J. E., Morgan, M., Barnett, V., & Spreat, S. (2015). Handheld devices and video modeling to enhance the learning of self-help skills in adolescents with autism spectrum disorder. *Otjr, 35*(2), 95-100. Retrieved from https://search-proquest-com.ezproxy.uaeu.ac.ae/docview/1770420185?accountid=62373

Carothers, D. E., & Taylor, R. L. (2004). How teachers and parents can work together to teach daily living skills to children with autism. *Focus on Autism and Other Developmental Disabilities, 19*(2), 102-104. doi:10.1177/10883576040190020501

Chadwick, B., Gill, P., Stewart, K., & Treasure, E. (2008). Methods of data collection in qualitative research: Interviews and focus groups. *British Dental Journal, 204*(6), 291-295. doi:10.1038/bdj.2008.192

Charlop-Christy, M. H., Le, L., & Freeman, K. A. (2000). A comparison of video modeling with in vivo modeling for teaching children with autism. *Journal of Autism and Developmental Disorders, 30*(6), 537-552. doi:10.1023/A:1005635326276

David L, (2019, February 7). *Social Learning Theory (Bandura), Learning Theories*. Retrieved from https://www.learning-theories.com/social-learning-theory-bandura.html.

DiCicco-Bloom, B., & Crabtree, B. F. (2006). The qualitative research interview. *Medical Education, 40*(4), 314-321. doi:10.1111/j.1365-2929.2006.02418.x

Gay, L.R., Mills, G.E. & Airasian, P.W. (2012) Educational Research: Competencies for Analysis and Application. 10th Edition, Pearson, Upper Saddle River.

Gelbar. N.W, Anderson. C, & McCarthy, S. (2012). Video self-modeling as an intervention strategy for individuals with autism spectrum disorders. *Psychology in the schools,* 49(1), 15-22. DOI: 10.1002/pits.20628.

Gül, S. O., & Vuran, S. (2010). An analysis of studies conducted video modeling in teaching social skills. *Kuram Ve Uygulamada Egitim Bilimleri,* 10(1), 249-274. Retrived from https://search-proquest-com.ezproxy.uaeu.ac.ae/docview/236991011?pq-origsite=summon

Hardy, C. (2002;2016;). *Autism and ICT: A guide for teachers and parents*. London: Routledge Ltd. doi:10.4324/9781315069609

Harkavy, L. M. (2009). Role of surface disinfection and hand hygiene in reducing illness. *The Journal of School Nursing : The Official Publication of the National Association of School Nurses, Suppl*, 5. 5-7. Retrieved from https://search-proquest-com.ezproxy.uaeu.ac.ae/docview/212417509?accountid=62373

Hessian. H.Y., Abbady, K.A., & Alaam, M.W. (2017). Prevalence, Trend. Determinants and prediction of Autism Spectrum Disorders among Dubai diagnostic Approach and Management Contexts. Ped Health Res, 2: (2:12). 1-5. doi: 10.21762574-2817.100016

Hong, E. R., Gong, L., Ninci, J., Morin, K., Davis, J. L., Kawaminami, S., . . . Noro, F. (2017). A meta-analysis of single-case research on the use of tablet-mediated interventions for persons with ASD. *Research in Developmental Disabilities, 70*, 198-214. doi:10.1016/j.ridd.2017.09.013

Horner, R. D., & Keilitz, I. (1975). Training mentally retarded adolescents to brush their teeth 1. *Journal of Applied Behavior Analysis*, *8*(3), 301-309. Retrieved from https://onlinelibrary.wiley.com/doi/abs/10.1901/jaba.1975.8-301

Horner, R. H., Carr, E. G., Halle, J., McGee, G., Odom, S., & Wolery, M. (2005). The use of single-subject research to identify evidence-based practice in special education. *Exceptional Children, 71*(2), 165-179. doi:10.1177/001440290507100203

International Self Care Foundation (ISF) (n.d.). Retrieved from http://isfglobal.org/international-self-care-day/ (Accessed: February 21, 2015)

Jasmin, E., Couture, M., Mckinley, P., Reid, G., Fombonne, E., & Gisel, E. (2009). Sensori-motor and daily living skills of preschool children with autism spectrum disorders. *Journal of Autism and Developmental Disorders, 39*(2), 231-41. doi:http://dx.doi.org.ezproxy.uaeu.ac.ae/10.1007/s10803-008-0617-z

Kleeberger, V., & Mirenda, P. (2010). Teaching generalized imitation skills to a preschooler with autism using video modeling. *Journal of Positive Behavior Interventions, 12*(2), 116-127. doi:http://dx.doi.org/10.1177/1098300708329279

Kutty, S. (2012). *Video modeling and the expression of social communication and behavior skills in preschool and elementary school children with autism spectrum disorders* (Order No. 3518150). (PhD dissertation). Available from ProQuest Dissertations & Theses Global. (1033339703). Retrieved from https://search- proquest-com.ezproxy.uaeu.ac.ae/docview/1033339703?accountid=62373

Lee, C. Y. Q., Anderson, A., & Moore, D. W. (2014). Using video modeling to toilet train a child with autism. *Journal of Developmental and Physical Disabilities, 26*(2), 123-134. doi:10.1007/s10882-013-9348-y

Matson, J. L., Hattier, M. A., & Belva, B. (2011). Treating adaptive living skills of persons with autism using applied behavior analysis: A review. *Research in Autism Spectrum Disorders, 6*(1) 271-276. doi:10.1016/j.rasd.2011.05.008

Mays, N. M., & Heflin, L. J. (2011). Increasing independence in self-care tasks for children with autism using self-operated auditory prompts. *Research in Autism Spectrum Disorders, 5*(4), 1351-1357. doi:10.1016/j.rasd.2011.01.017

McCoy, K., & Hermansen, E. (2007). Video modeling for individuals with autism: A review of model types and effects. *Education and Treatment of Children, 30(4)*, 183-213. Retrieved from https://search-proquest-com.ezproxy.uaeu.ac.ae/docview/202669478?accountid=62373

Meister, C., & Salls, J. (2015). Video modeling for teaching daily living skills to children with autism spectrum disorder: A pilot study. *Journal of Occupational Therapy, Schools, & Early Intervention, 8*(4), 307-318. doi:10.1080/19411243.2015.1107005

Miltenberger, C. A. (2013). *The Comparative and General Effectiveness of Video Modeling on Portable Handheld Devices with Children with Autism* (Order No. 3590811). Available from ProQuest Central; ProQuest Dissertations & Theses Global. (1433075218). Retrieved from https://search-proquest-com.ezproxy.uaeu.ac.ae/docview/1433075218?accountid=62373

Mineo, B., Ziegler, W., & Salkin, D. (2009). Engagement with electronic screen Media among students with autism spectrum disorders. *JournaI of Autism and Developmental Disorder,* 39(1), 172- 187. DOI: 1614889601.

Ministry of community development statistics. (2019). Retrieved from https://www.mocd.gov.ae/en/open-data/statistics.aspx

Nikopoulos, C., & Keenan, M. (2006). *Video modelling and behaviour analysis: A guide for teaching social skills to children with autism. 1. publ*. London: Kingsley.

Norman, J. M., Collins, B. C., & Schuster, J. W. (2001). Using an instructional package including video technology to teach self-help skills to elementary students with mental disabilities. *Journal of Special Education Technology, 16*(3), 5-18. doi:10.1177/016264340101600301

Ogle, L. N. (2012). *A comparison of point of view video modeling and video self-modeling for preschool-aged children with autism spectrum disorder* (Order No. 1513165). (PHD dissertation) Available from ProQuest Dissertations & Theses Global. (1024270941). Retrieved from https://search-proquest-com.ezproxy.uaeu.ac.ae/docview/1024270941?accountid=62373

Ohtake, Y. (2015). Using a hero as a model in video instruction to improve the daily living skills of an elementary-aged student with autism spectrum disorder: A pilot study. *International Journal of Disability, Development and Education, 62*(4), 363-378. doi:10.1080/1034912X.2015.102717

Ohtake, Y., Takahashi, A., & Watanabe, K. (2015). Using an animated cartoon hero in video instruction to improve bathroom-related skills of a student with autism spectrum disorder. *Education and Training in Autism and Developmental Disabilities, 50*(3), 343-355. Retrieved from https://search-proquest-com.ezproxy.uaeu.ac.ae/docview/1707835970?accountid=62373

Omar, M., (2012). Fa'alyat istekhdam namthajat alvideo fe tanmyat ba'd maharat alla'eb lada halat men alatfal almosabeen bedterab alautism[the effectiveness of using video modeling in enhancing play skills of students with autism.] *college of education Banha University journal*. 91(23).135-189. Retrieved from Edusearch.

Ormrod, J. E. (2011). *Educational psychology: Developing learners* (7th ed.). Upper Saddle River, N.J: Pearson/Merrill/Prentice Hall.

Pamela M. Olsen, Linda S. Bailey & D. Daniel Gould (2018) Using video modelling to teach culture-specific dressing skills, European Journal of Behavior Analysis, 19:2, 247-259, DOI: 10.1080/15021149.2018.1541205

Petersen P. E. The World Oral Health Report 2003: continuous improvement of oral health in the 21st century - the approach of the WHO Global Oral Health Programme. *Community Dent Oral Epidemiol, 31(s1)*, 3-24. doi:10.1046/j.2003.com122.x

Piccin, S., Crippa, A., Nobile, M., Hardan, A. Y., & Brambilla, P. (2018). Video modeling for the development of personal hygiene skills in youth with autism spectrum disorder.*Epidemiology and Psychiatric Sciences, 27*(2), 127-132. doi:10.1017/S2045796017000610

Pilebro, C. And Bäckman, B. (2005). Teaching oral hygiene to children with autism. *International Journal of Paediatric Dentistry,* 15(1), 1-9. doi:10.1111/j.1365-263X.2005.00589.x

Plavnick, J. B., & Hume, K. A. (2014). Observational learning by individuals with autism: A review of teaching strategies. *Autism,* 18(4), 458-466. doi:10.1177/1362361312474373

Popple, B., Wall, C., Flink, L., Powell, K., Discepolo, K., Keck, D., . . . Shic, F. (2016). Brief report: Remotely delivered video modeling for improving oral hygiene in children with ASD: A pilot study. *Journal of Autism and Developmental Disorders, 46*(8), 2791-2796. doi:10.1007/s10803-016-2795-4

Pratt, C., Hopf, R., & Larriba-Quest, K. (2017). Characteristics of individuals with an autism spectrum disorder (ASD). *The Reporter, 21(17)*. Retrieved

from https://www.iidc.indiana.edu/pages/characteristics. (Accessed: March 15, 2019)

Quasema. (2014). Athar birnamig tadreeby litanmyat almaharat alejtima'yah bistikhdam alnamzaja men khelal alvedio lada a'ynah men alatfal thawy idterab altawahod [the impact of a training program using video modeling in enhancing social skills of students with autism.] *childhood and education, Alxandria University.* 6(20) 81-131 Retrieved from Edusearch.

Richard culatta, (2019**).** Social Learning Theory (Albert Bandura) retrieved from https://www.instructionaldesign.org/theories/social-learning/ (Accessed: April 15, 2019)

Richards, L. C., Heathfield, L. T., & Jenson, W. R. (2010). A class wide peer-modeling intervention package to increase on-task behavior. Psychology in the Schools, 47(6), 551-566. doi:10.1002/pits.20490

Rosenberg, N. E., Schwartz, I. S., & Davis, C. A. (2010). Evaluating the utility of commercial videotapes for teaching hand washing to children with autism. *Education and Treatment of Children, 33*(3), 443-455. doi:10.1353/etc.0.0098

Sancho, K., Sidener, T. M., Reeve, S. A., & Sidener, D. W. (2010). Two variations of video modeling interventions for teaching play skills to children with autism. *Education and Treatment of Children, 33*(3), 421-442. doi:10.1353/etc.0.0097

Shrestha, A., Anderson, A., & Moore, D. W. (2013). Using point-of-view video modeling and forward chaining to teach a functional self-help skill to a child with autism. *Journal of Behavioral Education, 22*(2), 157-167. doi:10.1007/s10864-012-9165-x

Silver, M., & Oakes, P. (2001). Evaluation of a new computer intervention to teach people with autism or asperger syndrome to recognize and predict emotions in others. *Autism, 5*(3), 299-316. doi:10.1177/1362361301005003007

Simmons, K. (2006). *Official autism 101 manual, the: Everything you need to know about autism, from experts who know and care* Electronic & Database Publishing Inc.

Smith, M., Ayres, K., Mechling, L., & Smith, K. (2013). Comparison of the effects of video modeling with narration vs. video modeling on the functional skill acquisition of adolescents with autism. *Education and Training in Autism and Developmental Disabilities, 48*(2), 164- 178.

Spreckley, M. (2009). Efficacy of applied behavioral intervention in preschool children with autism for improving cognitive, language, and adaptive

behavior: A systematic review and meta-analysis. *J Pediatr, 154*(3), 338-344. doi:10.1016/j.jpeds.2008.09.012

Stuart-Hamilton, I. (2007). *Dictionary of Psychological Testing, Assessment and Treatment*. London, GB: Jessica Kingsley Publishers. Retrieved from http://www.ebrary.com

Tetreault, A. S., & Lerman, D. C. (2010). Teaching social skills to children with autism using point-of-view video modeling. *Education and Treatment of Children, 33*(3), 395-419. doi:10.1353/etc.0.0105

Van Laarhoven, T., Kraus, E., Karpman, K., Nizzi, R., & Valentino, J. (2010). A comparison of picture and video prompts to teach daily living skills to individuals with autism. *Focus on Autism and Other Developmental Disabilities, 25*(4), 195-208. doi:10.1177/1088357610380412

Volkmar, F. R. & Wiesner, L. A. (2009). A practical guide to autism: *what every parent, family member, and teacher needs to know* /. ISBN 978-0-470-39473-1 (pbk.)

Volkmar, F. R., Paul, R., & Rogers, S. J. (2014). *Handbook of autism and pervasive developmental disorders, volume 2: Assessment, interventions, and policy (4th edition)* John Wiley & Sons, Incorporated.

Whitman, T. L. (2004). *The Development of Autism. London, GB: Jessica Kingsley Publishers*. Retrieved from http://www.ebrary.com

Williams, K. F. (2013). The use of video prompting via an ipad® and a system of least to Most prompting to teach individuals with moderate Intellectual disabilities the vocational task of Rolling silverware. Retrieved from ProQuest. UMI: 3604848

Wilson, K. P. (2013). Incorporating video modeling into a school-based intervention for students with autism spectrum disorders. *Language, Speech, and Hearing Services in Schools, 44*(1), 105-117. doi:10.1044/0161-1461(2012/11-0098)

Woltersdorf, M. A. (1992). Videotape self-modeling in the treatment of attention-deficit hyperactivity disorder. Child & Family Behavior Therapy, 14, 53–73. DOI: 10.1300/J019v14n02_04.

World Health Organization (WHO). (2009) Retrieved from http://isfglobal.org/international-self-care-day/ (Accessed: January 23, 2016).

Zachor, D. A., Merrick, J., & ebrary, I. (2013). *Understanding autism spectrum disorder: Current research aspects*. New York: Nova Biomedical.

Appendix

Appendix 1: Hand washing checklist 1

Checklist of hand washing skill (1)

Session ---------- location: ---------- Date: ----------

Score: ---------- Percentage: ---------- Student name: ----------

Assessor: ----------

Step	Performed correctly	Performed incorrectly			
		Latency error	Duration error	Sequence error	Topographical error
1. Walk to the sink.					
2. Turn on water					
3. Wet your hands					
4. Get one squirt of soap					
5. Rub the back of right hand using the left hand.					
6. Rub the back of left hand using the right hand.					
7. Rub between fingers.					
8. Rinse/ Rub hands together under water					
9. Turn off water					
10. Get towel off of hook					
11. Rub towel between hands					
12. Hang towel back on hook					

Performed correctly= 1 Performed incorrectly= 0

Appendix 2: Hand washing checklist 2

Checklist for hand washing skill (2)

Session ---------- location: ---------- Date: ----------

Score: ---------- Percentage: ---------- Student name: ----------

Assessor: ----------

Step	Video modeling	Video modeling with partial physical prompting	Video modeling with full physical prompting
Walk to the sink.			
Turn on water			
Wet your hands			
Get one squirt of soap			
Rub the back of right hand using the left hand.			
Rub the back of left hand using the right hand.			
Rub between fingers.			
Rinse/ Rub hands together under water			
Turn off water			
Get towel off of hook			
Rub towel between hands			
Hang towel back on hook			

Video modeling =3

Video modeling with verbal prompting=2

Video modeling with partial physical prompting=1

Video modeling with full physical prompting=0

Appendix 3: Toothbrushing checklist 1

Checklist of teeth brushing skill (1)

Type of session: ---------- location---------- Date----------

Score: ---- Percentage: ---------- Student name----------

Assessor: ----------

Step	Performed correctly	Performed incorrectly			
		Latency error	Duration error	Sequence error	Topographical error
Go to the sink					
Pick up and hold the toothpaste.					
Remove the cap from the toothpaste.					
Pick up and hold the toothbrush.					
Put the top of toothpaste on the brush.					
Squeeze to apply the toothpaste to the brush.					
Brush the outside surfaces of the teeth of the upper jaw.					
Brush the inside surfaces of the teeth of the upper jaw.					
Brush the outside surfaces of the teeth of the lower jaw.					
Brush the inside surfaces of the teeth of the lower jaw.					
Open water.					
Rinse the toothbrush.					
Put the toothbrush away in the proper place (the cup).					
Fill the cup with water.					
Rinse the mouth.					
Turn off water.					
Replace the cap on the toothpaste.					
Put the toothpaste away in the proper place (the cup).					
Dry mouth and hands.					

Performed correctly= 1 Performed incorrectly= 0

Appendix 4: Toothbrushing Checklist 2

Checklist of teeth brushing skill (2)

Type of session ---------- location---------- Date----------

Score: ---------- Percentage---------- Student name----------

Assessor: ----------

Step	Video modeling	Video modeling with partial physical prompting	Video model full physical
Go to the sink			
Pick up and hold the toothpaste.			
Remove the cap from the toothpaste.			
Pick up and hold the toothbrush.			
Put the top of toothpaste on the brush.			
Squeeze to apply the toothpaste to the brush.			
Brush the outside surfaces of the teeth of the upper jaw.			
Brush the inside surfaces of the teeth of the upper jaw.			
Brush the outside surfaces of the teeth of the lower jaw.			
Brush the inside surfaces of the teeth of the lower jaw.			
Open water.			
Rinse the toothbrush.			
Put the toothbrush away in the proper place (the cup).			
Fill the cup with water.			
Rinse the mouth.			
Turn off water.			
Replace the cap on the toothpaste.			
Put the toothpaste away in the proper place (the cup).			
Dry mouth and hands.			

Video modeling =3

Video modeling with verbal prompting=2

Video modeling with partial physical prompting=1

Video modeling with full physical prompting=0

Appendix 5: Center Manager Consent Form

مركز العين للرعاية والتأهيل
موافقة مدير المركز للمشاركة في دراسة بحثية
جامعة الإمارات العربية المتحدة- التربية الخاصة

عنوان الدراسة:
فاعلية استخدام النمذجة بالفيديو لتحسين مهارات العناية بالذات لدى طالب توحدي

الغرض من الدراسة:
تهدف هذه الدراسة إلى تدريب طالب مصاب بالتوحد على مهارات العناية بالذات باستخدام اسلوب النمذجة بالفيديو الذي يعرض المهارة من منظور المُشاهد بالإضافة الى المساعدة الجسدية. قائمتي المطابقة المرفقتين سوف يتم استخدام أحدهما كأداة لجمع البيانات خلال الجلسات في المرحلة الأساسية (الاختبار القبلي) لمعرفة مستوى المهارة لدى الطالب وأيضا خلال مرحلة الاختبار البعدي والقائمة الأخرى سوف يتم استخدامها خلال جلسات تنفيذ البرنامج.

وصف إجراءات الدراسة:
سوف يخضع الطالب لامتحان قبلي وبعدي بالإضافة الي جلسات التدريب على مهارات العناية بالذات مثل مهارة غسيل اليدين ومهارة غسيل الاسنان والتي سيتم استخدام مقاطع فيديو لتوضيح الخطوات وسيتم ذلك داخل المركز وسيقوم بتدريبه معلم التربية الخاصة بالمركز.

الخصوصية (السرية):
جميع ما يحدث في هذه الدراسة من استبانات أو مقابلات أو امتحانات فهو سري. لن يتم جمع أو الاحتفاظ بأي معلومات عن هوية الطالب.
سيتم الاحتفاظ بسجلات لهذه الدراسة في سرية تامة. سيتم الاحتفاظ بسجلات البحث في ملف مؤمن، وسوف تكون جميع المعلومات الإلكترونية مشفرة ومؤمنة ..

الحق في الرفض أو الانسحاب:
إن قرار المشاركة في هذه الدراسة متروك لكم انكم مدعوون لمراقبة الجلسات إذا كنت ترغب في ذلك. قد يرفض الطالب للمشاركة في الدراسة في أي وقت. لديكم الحق في الانسحاب الكامل من الدراسة في أي وقت أثناء العملية.

الحق في طرح الأسئلة:
لديك الحق في طرح أسئلة حول هذه الدراسة البحثية والحصول على اجابات على هذه الأسئلة قبل أو أثناء أو بعد البحث. إذا كان لديك أي أسئلة أخرى عن الدراسة، في أي وقت لا تتردد في الاتصال بي، [مي غنيم] , [201470205@uaeu.ac.ae] أو عن طريق الهاتف على [00970528501003]. إذا أردت، سيتم إرسال ملخص لنتائج الدراسة لك.

الموافقة :
يشير توقيعك أدناه أنك قد قررت أن تسمح للطالب بالمشاركة في البحث لهذه الدراسة، و قد قرأت وفهمت المعلومات الواردة أعلاه. سوف تحصل على نسخة موقعة وموَرخة من هذا النموذج للإحتفاظ بها، جنبا إلى جنب مع غيرها من المواد المطبوعة التي تعتبر ضرورية من قبل الباحث.

مدير المركز: د/ أحمد [illegible]
التوقيع:
التاريخ 4/2/2018

اسم الباحثة : مي علي غنيم
التوقيع:
التاريخ: 4/2/2018

Al Ain Center For Care & Rehabilitation Disabled
Tel.: +971 3 7832222

Appendix 6: Parent Consent Form

مركز العين للرعاية والتأهيل
موافقة ولي الأمر لمشاركة نجله في دراسة بحثية
جامعة الإمارات العربية المتحدة- التربية الخاصة

عنوان الدراسة:
فاعلية استخدام النمذجة بالفيديو وأسلوب الحث لتحسين مهارات العناية بالذات لدى طالب توحدي

الغرض من الدراسة:
تهدف هذه الدراسة إلى تدريب طالب مصاب بالتوحد على مهارات العناية بالذات باستخدام اسلوب النمذجة بالفيديو الذي يعرض المهارة من منظور المُشاهد بالإضافة الى المساعدة الجسدي. قائمتي المطابقة المرفقتين سوف يتم استخدام أحدهما كأداة لجمع البيانات خلال الجلسات في المرحلة الأساسية (الاختبار القبلي) لمعرفة مستوى المهارة لدى الطالب وأيضا خلال مرحلة الاختبار البعدي والقائمة الأخرى سوف يتم استخدامها خلال جلسات تنفيذ البرنامج.

وصف إجراءات الدراسة:
إذا قررت أن تسمح لطفلك للمشاركة في هذه الدراسة، سوف يخضع لامتحان قبلي وبعدي بالإضافة الي جلسات التدريب على مهارات العناية بالذات مثل مهارة غسيل اليدين ومهارة غسيل الاسنان والتي سيتم استخدام مقاطع فيديو لتوضيح الخطوات وسيتم ذلك داخل المركز وسيقوم بتدريبه معلم التربية الخاصة بالمركز.

الخصوصية (السرية):
جميع ما يحدث في هذه الدراسة من استبانات أو مقابلات أو امتحانات فهو سري. لن يتم جمع أو الاحتفاظ بأي معلومات عن هوية طفلك.
سيتم الاحتفاظ بسجلات لهذه الدراسة في سرية تامة. سيتم الاحتفاظ بسجلات البحث في ملف مؤمن، وسوف تكون جميع المعلومات الإلكترونية مشفرة ومؤمنة ..

الحق في الرفض أو الانسحاب:
إن قرار المشاركة في هذه الدراسة متروك لكم ولطفلك. انكم مدعوون لمراقبة المقابلة إذا كنت ترغب في ذلك. قد يرفض طفلك للمشاركة في الدراسة في أي وقت. طفلك لديه الحق في عدم الرد على أي سؤال ، وكذلك الانسحاب الكامل من الدراسة في أي وقت أثناء العملية.

الحق في طرح الأسئلة:
لديك الحق في طرح أسئلة حول هذه الدراسة البحثية والحصول على اجابات على هذه الأسئلة قبل أو أثناء أو بعد البحث. إذا كان لديك أي أسئلة أخرى عن الدراسة، في أي وقت لا تتردد في الاتصال بي، [مي غنيم] , [201470205@uaeu.ac.ae] أو عن طريق الهاتف على [00970528501003]. إذا أردت، سيتم إرسال ملخص لنتائج الدراسة لك.

الموافقة :
يشير توقيعك أدناه أنك قد قررت أن تسمح لطفلك بالمشاركة في البحث لهذه الدراسة، و قد قرأت وفهمت المعلومات الواردة أعلاه. سوف تحصل على نسخة موقعة ومؤرخة من هذا النموذج للإحتفاظ بها، جنبا إلى جنب مع غيرها من المواد المطبوعة التي تعتبر ضرورية من قبل الباحث.

اسم ولي الأمر: د/ أحمد السيد سلام
التوقيع:
التاريخ: 4/12/2018

اسم الباحثة : مي علي غنيم
التوقيع:
التاريخ: 4/12/2018

مدير المركز:

تم التواصل مع ولي الامر بالمملكة العربية السعودية بتاريخ 4/12/2018
وانابة مدير المركز د/ احمد السيد سلام بالتوقيع عنه